PALESTINE EXPLORATION QUARTERLY

Embodying the *Quarterly Statement* of the Palestine Exploration Fund and the *Bulletin* of the British School of Archæology in Jerusalem

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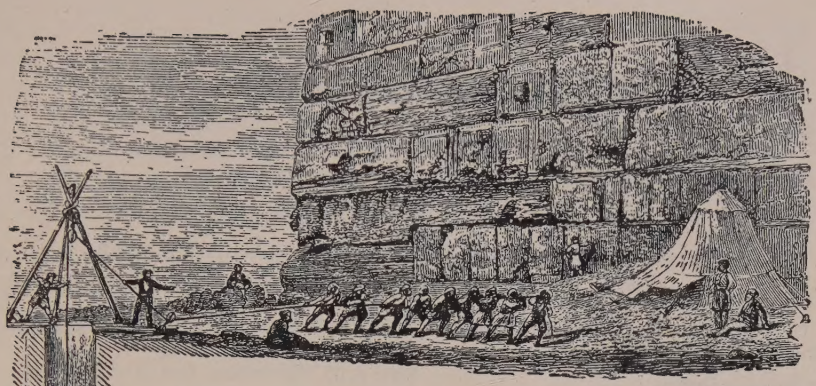

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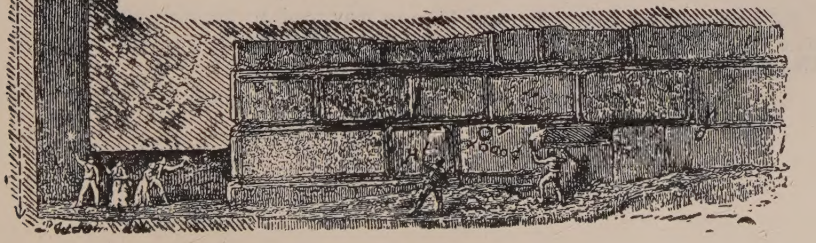

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THE PALESTINE EXPLORATION FUND

NOTES AND NEWS

In the current issue of *Antiquity* Dr. Crawford, whose child it is, puts forward an eloquent plea for a wider support for this most valuable journal. His words are worth quoting: " *Antiquity* is not just a journal published by archaeologists for other archaeologists, and specializing in some particular aspect or period or country. It covers the whole field and it is kept going by its readers, the majority of whom are not archaeologists in the strict sense, but just intelligent people who are interested in archaeology and like to hear about it. It was for them that *Antiquity* was founded, and without their support it could not exist. Indeed, without them there would be little or no archaeology to-day ! For the day of the rich individual patron is over; archaeology is kept going by the taxpayer, and it is only right that, in return, an attempt should be made to explain to him or her what it all means. We make the attempt in *Antiquity* by publishing popular but authoritative articles, notes and reviews dealing with matters of current interest and importance ". To readers of the PALESTINE EXPLORATION QUARTERLY, *Antiquity* has a special appeal, since it helps to orientate their special sphere of interest in the wider field of general archaeology. For example, the current issue of *Antiquity* has an interesting article on the ' Beehive ' villages of North Syria, which links up with the ' tholoi ' dwellings of Arpachiyah excavated by Professor Mallowan and described in the PALESTINE EXPLORATION QUARTERLY some years ago. We hope that Dr. Crawford's appeal will meet with a wide and well-deserved response.

In *Syria*, vol. XXXI, 1 & 2, Professor Schaeffer gives a summary account of the results of the last three campaigns at Ras Shamra. It is clear that the riches of that remarkable site are far from being exhausted. The most spectacular find was the discovery in the palace of the largest sculptured ivory panel yet found anywhere in Egypt or the Near East. It had formed part of a state bed which had been crushed by the collapse of the palace walls. The preservation and reconstruction of the panel and other ivory objects has been a triumph of patience and skill on the part of MM. Forrer and Hafiz, and the Plates VIII, IX and X in the number of *Syria* to which reference has been made above show how successful the

reconstruction has proved and how interesting are the subjects treated when compared with the ivories of Samaria, Arslan Tash and Megiddo. But, though less spectacular, yet more important are the new documents throwing light on the political relations between the Hittite empire and the kingdom of Ugarit during the Tell el-Amarna period. It would seem that a special apartment in the palace, designated 'les Archives Sud' by M. Schaeffer, was assigned to the Hittite correspondence, and the documents there preserved cover the reigns of the Hittite kings Suppiluliuma, Mursilis II, Hattusilis III, and Tudhaliyas IV, a period from 1395 to 1236 B.C. The correspondence shows that while the traditional policy of Ugarit was the maintenance of friendly relations with Egypt, yet she was under constant pressure from the Hittite kings to recognize their overlordship and to support them in their long struggle with Egypt for dominance in northern Syria. It is also a matter of historical importance that the new documents disclose the names of several kings of Ugarit hitherto unknown. Instead of three we now have the names of ten kings of Ugarit. It is also interesting to find a fresh reference to our old friends the Habiru: the text in question is worth quoting: "Seal of Tabarna. Hattusilis the Great King: if a servant of the king of Ugarit, or a man of Ugarit, whoever he be, rebels and passes over into the territory of the Habiru which is mine, the Great King, the Sun, I will not receive him, but will give him up to the king of Ugarit. If any of the people of Ugarit have bought a foreigner and he flees from Ugarit and passes over to the Habiru, I, the Great King, will not receive him, but will give him up to the king of Ugarit." There is much else in this fascinating account of the last three campaigns at Ras Shamra which space will not allow us to comment on, but it may well be said that this is the most important number of *Syria* which has appeared since the war.

Another interesting addition to the Ugaritic literature comes to us from Boghaz-Keui. Herr Otten has published some Hittite fragments containing scenes from the myth of Baal and Asherat not hitherto known from the myths which have come to us from Ugarit. A point of special interest is that in these texts the god El bears the title Elkunirša, which is felicitously explained by H. Otten as meaning El, Creator of the earth. Even more striking is the discovery, for such it deserves to be called, that in this title we have the explanation of the name of the mythical Phoenician figure Kinyras, whom we now learn to be none other than the Phoenician god El, father of Adonis, and linked with Byblos. It is also significant to find that Canaanite mythology has penetrated into the heart of the Hittite civilization.

Attention may be drawn to an interesting and important paper by Professor Sidney Smith entitled *Events in Arabia in the 6th Century A.D.* It is published in the Bulletin of the School of Oriental and African Studies, 1954. It throws new light on the relations between the emperor Justinian and the

Abyssinians and Himyarites and, incidentally, vindicates the value of John of Ephesus as an important historical source.

In the current number of *The Biblical Archaeologist* (February, 1955) there is an interesting article by Professor Nelson Glueck entitled *The Age of Abraham in the Negeb*. In it convincing evidence is offered to show that in the Middle Bronze I period, which coincides roughly with the time of Abraham, the Negeb can no longer be considered as an empty wilderness, but was inhabited by sedentary agricultural peoples in the time of Abraham. Professor Glueck says: " We have now discovered over half a dozen important Abrahamitic period, Middle Bronze I sites in the Negeb extending from a site above Bir Rekhmeh (Be'er Yeruham), which is some 28 kilometers S.E.-S.S.E. of Beersheba, to a site as far as 22 kilometers S.E. of 'Ain el-Qudeirat, which is to be identified with Qadesh-barnea in Sinai." Professor Glueck also points out that these Negeb sites, which were destroyed at the end of Middle Bronze I, may be identified with the line of cities said in Gen. xiv, 5–7 to have been destroyed by Chedorlaomer and his allies.

A somewhat unusual feature of *The Biblical Archaeologist* appears in the issue of December, 1954, in the form of a long article by Lucetta Mowry, putting forward the theory that the polemic of the Fourth Gospel can be best explained as directed against the Essenes of Qumran. The article is worth the attention of those who are interested in relation of the Qumran documents to the New Testament. Some of its assumptions are open to question. For example, Father R. North's article in the present issue of this journal renders the existence of a Qumran sect at Damascus very doubtful, to say the least; and Professor Dodd's masterly demonstration of the relation between the Fourth Gospel and the Hermetic literature is far too lightly dismissed.

Another important study of the Qumran documents is begun in *Revue Biblique* for October, 1954. It is by M. Delcor and is entitled *Contribution à l'étude de la législation des sectaires de Damas et de Qumran.* The author describes his study as intended to throw light on the attitude of the sectaries of Damascus and Qumran towards the Mosaic law. It contains a careful critical examination of all the cognate terms for ' law ', with a comparison of the Zadokite document and the Qumran Manual of Discipline. The assumption of the existence of a sect at Damascus, although generally held, may now be open to challenge, as mentioned above, in the light of Father Robert North's findings. But M. Delcor's contribution is most valuable.

Our readers may be interested to hear of the useful series of popular manuals of Biblical archaeology edited by M. Henri Parrot, the excavator of Mari, under the general title of *Cahiers d'Archeologie biblique.* They are being translated into English and published by the S.C.M. Press. In the

press are *Nineveh and the Old Testament* and *The Journeys of St. Paul.* Others will follow shortly. Such interesting subjects as *The Tablets of Mari and the Old Testament*, *The Dead Sea Manuscripts*, *Ur of the Chaldees*, *The Flood and Noah's Ark* are among those with which the series will deal.

Editorial Note

The Editor begs to inform contributors:

(*a*) That all contributions must be in typescript.

(*b*) That no extensive alterations and additions to proofs can be accepted.

(*c*) That illustrations must be arranged by the author as he wishes them to appear in the text, and the places where text-figures are to appear in the text must be clearly indicated in the MS.

(*d*) That contributors of articles will receive 20 off-prints, and if any extra copies are required they will be supplied at the author's expense if ordered before the publication of that issue of the journal in which the contribution appears. Contributors of reviews will receive one extra copy of the Quarterly.

BIRDS IN THE OLD TESTAMENT

I. BIRDS IN LAW

By G. R. Driver

Whoever studies the natural history of the O.T. as reflected in both ancient and modern translations must be prepared for a succession of shocks: for example, rain is a blessing on mown grass, grasshoppers grow into locusts, cranes chatter or twitter like swallows, and so on !

The identification of each and every bird must be controlled by three factors: the radical meaning of the name as established by philology, the ancient translations of it after careful consideration of their probability[1], the description of each bird's habitat and habits wherever these are given and the comparison of these with those of any birds proposed for identification.

Many of the names of birds will be found to be in Hebrew as in other languages onomatopoeic in origin; but no exact reproduction of a bird's cry must be expected. The onomatopoeon may represent a real attempt to reproduce the original sound or may be a mere echoing repetition of a single note to give the effect of a monotonous cry; and it may undergo every form of linguistic assimilation or dissimilation.

At the same time the well-known indifference of ordinary, and especially Oriental, people to scientific enquiry compels caution; the same name may be used for two different birds or even for totally different creatures. So " turtle " has been used both for turtle-dove and tortoise and " osprey " serves for both bearded vulture and fish-eating hawk. Such divergent uses of a name may be due to faulty observation or to linguistic confusion.

The ancient Hebrews classified every bird as *ba'al kānāp* " owner of a wing " (Prov. i 17; cp. Eccl. x 20) or collectively as *'ôp* " fliers "; the origin of the √*'WP* is probably, as of so many other words, onomatopoeic, since it seems to represent the rhythmical beating of wings on the air and its displacement thereby. These are sub-divided into two genera with the following names:

(i) *'ayiṭ* " screamers " (Heb. *'âṭ* = Arab. *'ayyaṭa* " screamed "), which denotes primarily all the *raptores* (*vulturidae*, *falconidae*, and also *strigidae*)[2] but can presumably denote individual members of the class when suitably qualified[3];

[1] These must be used with caution. The Septuagint, except when swayed by Egyptian influence, and the Vulgate are reasonably trustworthy; but the translations in the Targum and Peshitta seem often to be mere guesses, and indeed the meaning of many terms used in them is quite uncertain.

[2] Screaming is said of eagles (Gray " Bard " 38) and vultures (Pope, " Iliad " xvii 529) and owls (Shakespeare " Macbeth " II ii 16). Is the Gr. ἀετός " eagle," of which the origin is unknown, a similarly onomatopoeic name?

[3] S.p. 14.

(ii) *ṣippōr* " twitterers " (Acc. *ṣapāru* " to chatter, twitter " of women and birds and Arab. *ṣafara* " chirped, peeped, twittered, whistled ")[4], which echoes the " chivi-chivi-chivi-chivi " of the sparrow and so stands for all the passerine birds and many, if not most, other small birds which are not specifically named.

Other terms are *benôt haššîr* " birds of song " (Eccl. xii 4) and perhaps *zāmîr* " songster " (Ct. ii 12). The sense of the first expression is proved by the parallel *ṣippōr*, which requires a general term for a class of birds (Elster). All the Vss. indeed take the second to denote pruning, and the Heb. *zāmar* " sang " is nowhere used of birds; but the Syr. *zmar* " sang " is applied to birds and the Arab. *zamara* " played on a reed-flute; cried out " (Lane) is applied also to the female ostrich. In any case, the twitterers and song-birds are not so clearly distinguished from one another as from the birds of prey and probably often overlap; for the *ṣippōr* includes not only the sparrow, which is a twitterer, and the blue rock-thrush[5], which is a true song-bird, however monotonous its song may be[6], but also birds of prey[7]. These two expressions, then, are probably not so much technical terms as poetical descriptions of the birds in question.

Lastly, the Heb. *gôzāl* " young bird " is a general term of onomatopoeic origin[8] denoting perhaps not only a young pigeon (Gen. xv 9), as the Arab. *jauzalu(n)* (cognate Syr. *zûgālâ* "young dove, pigeon ") suggests, but certainly also other young birds, such as the young eagle or vulture (Deut. xxxii 11).

The detailed study of the birds mentioned in the Bible must begin with the two lists of unclean birds in the Pentateuch (Lev. xi 13–19 Deut. xiv 11–18)[9], which, too, surprise the naturalist. Why, for example, as in the current translations, are the ostrich, the ibis and the water-hen, accounted unclean; and what are these, which are not *raptores*, doing in a list of mainly raptorial birds?

The identification of the birds in this list will depend not only on the factors already mentioned, namely the philological sense of their names and their habitat and habits of life, but also on the reason for classifying them as unclean. This cannot be merely that their habits are unclean in the sense of being dirty; for, while some are strikingly so, *e.g.* the cormorant, such practices can hardly be laid to the charge of others, *e.g.* corvine birds, in this list. One reason may originally have been that the flesh is distasteful; that of brightly coloured birds, like the hoopoe, is often unpleasant to eat, and primitive people tend to avoid eating them for that reason. Many of those

[4] Butler " BB." II 87. The Lat. *passer* and the Eng. " sparrow " are similarly onomatopoeic.

[5] Tristram " FFP." 31.

[6] Ps. cii 8.

[7] Ezek. xxxix 4.

[8] Arab. *jazlu(n)* " thick voice; dove's love " (Freytag); cp. Fr. *gazouiller* " to chirrup, twitter, warble; prattle " (s. Fleischer *ap.* Levy *NhCWb.* I 433).

[9] The two lists are identical, except that Deuteronomy adds the *rā'āh*, the name of an otherwise unknown bird which is almost certainly a faulty doublet of the *dā'āh*; it is omitted by the oldest witnesses to the text (Sam , LXX).

in this list are probably unpalatable. The true reason, at any rate among the Jews, is however without doubt ritual uncleanness consisting, whatever its origin may have been, in one of two things: eating living blood or having contact with a corpse. Man was supposed originally to have been vegetarian (Gen. i 29; cp. ix 3), and eating the blood with the flesh was strictly prohibited (Gen. ix 4 Lev. iii 17), even though the rule was sometimes broken (Ezek. xxxiii 25; cp. I Sam. xiv 33); the reasons given are that the blood with the fat was regarded as the seat of life and so appropriated to the deity in sacrifice (Lev. xvii 10–14 Deut. xii 23–25) or that it was connected with forbidden heathen rites (Lev. xix 26–28 Ps. xvi 4). Contact with a corpse caused uncleanness (Lev. xxi 1–4, 11 xxii 4 Numb. v 2–3 vi 6–11), and this carried with it as an obvious corollary the prohibition of eating anything that died of itself (Lev. xvii 15 xxii 8 Deut. xiv 21) or was found torn by beasts (Exod. xxii 31). So clean beasts must be all ruminants with cloven hoofs (Lev. xi 3–8 Deut. xiv 4–8), which exclude all beasts of prey and those that eat carrion, as well as certain other beasts, possibly because of some connection with idolatrous cults practised by various Semites. The same rules must lie behind the distinction between clean and unclean birds; and the identifications here proposed, if they are accepted, will show that flesh whether living or dead is the food of all the unclean birds given in these lists, except for a postscript; the hoopoe and the bat, which do not eat flesh in any form, are apparently added because their flesh is distasteful or inedible or because of their dirty habits, since no ritual or other reason can be discovered for their inclusion. The reason why creatures which eat ritually unclean food, *i.e.* the flesh with the blood or carrion, are forbidden as food is the risk of contagion: having made themselves impure by the food which they have eaten, they may infect those who eat them with their own impurity. Whether the fear that the man who eats the flesh and blood of a raptorial bird or who eats that of a disagreeable or dirty bird or beast may himself acquire the undesirable habits of the creature which he has eaten (Abarbanel) or totemism (Robertson Smith) is the ultimate reason for this prohibition lies outside the present discussion.

The names of the unclean birds in the two lists are rendered by the following Greek and Latin terms in the two principal ancient Vss. (LXX, Vulgate):

	Leviticus		Deuteronomy	
1. *nešer*	ἀετός	*aquila*		
2. *peres*	γρύψ	*gryps*		
3. *'oznîyāh*	ἁλιάετος	*haliaetus*		
4a. *dā'āh* / *dayyāh*	γύψ	*milvus*	[*nil*]	*milvus*
4b. *rā'āh*	[*nil*]		γύψ	*ixi*
5. *'ayyāh*	ἰκτίν	*vultur*		
6. *'ôrēḇ*	[κόραξ]	*omni corvini genus*		

	Leviticus		Deuteronomy
7.	*baṯ ya'ănāh* στρουθός		*struthio*
8.	*taḥmās* γλαύξ		*noctua*
9.	*šaḥap* λάρος		*larus*
10.	*nēṣ* ἱέραξ		*accipiter*
11.	*kôs* νυκτικόραξ *bubo*		ἀρωδιός *herodius*[2]
12.	*šālāḳ* καταράκτης *mergulus*		κύκνος *cygnus*[2]
13.	*yanšûp* εἶβις		*ibis*
14.	*tinšemeṯ* πορφυρίων *cygnus*		καταράκτης *mergulus*[2]
15.	*qā'āṯ* πελεκάν *onocrotalus*		ὖποψ[3] *porphyrio*[2]
16.	*rāḥām* κύκνος *porphyrio*		νυκτικόραξ *nycticorax*[2]
17.	*ḥāsiḏāh* ἀρωδιός *herodio*		πελεκάν *onocrotalus*[2]
18.	*'ănāpāh* χαραδριός *charadrius*		
19.	*dûḵîpaṯ* ἔποψ *upupa*		πορφυρίων *upupa*

[1] Also στρουθιοκάμηλος (Field). [2] Names out of order. [3] Same as ἔποψ "hoopoe."

The name of the *nešer* (1), like that of many other birds, is onomatopoeic in origin; it is formed of sonant *n* prefixed to a basic *šr* representing a gleaming flash or rushing sound; for the bird thus designated is one which drops rushing like flashing light through the air[10]. The *nešer* is without doubt primarily the vulture, in all probability the griffon-vulture[11], rather than the eagle, as it has generally been taken to be; for, whereas eagles build their nests either in trees or on cliffs, vultures almost always use cliffs for this purpose (Jer. xliv 16; cp. Jb. xxxix 28).[12] The griffon-vulture, too, is probably meant where the reference is to the *nešer's* great wings (Ezek. xvii 3)[13] and to its carrying people on them (Exod. xix 4); for the wings of the griffon-vulture and the bearded vulture attain a span of eight or ten feet across[14]. The griffon-vulture, too, must be meant in the passage which speaks of its bald patch (Mic. i 16); for this vulture has a white patch on its head giving an appearance of baldness. Further, griffon-vultures begin the consumption of their victims by attacking the eyes and other soft parts of the body before piercing the abdomen,[15] as ravens do; this habit explains

[10] The Acc. *šarāru* "to flash, flicker, appear," applied to meteors, shows the same base with the sonant *r* repeated at the end; the O.-Ind. *svárati* "it (re)sounds; it shines, appears," the Lat. *susurrus* "whisper" and the Germ. *schwirren* "to vibrate, whirr" and *surren* "to buzz", are all built on the same sibilant sonant base. Hence the Acc. *našāru* "to tear apart" and the Aram. *nšar* "fell away" will be denominative verbs.

[11] Lat. *gyps fulvus* (Tristram "FFP." 95–6, where it is called a noble bird, the most striking in Palestine); s. Aharoni in *RB.*, *NS.* XLVIII 238.

[12] Tristram "FFP" 95–6; cp. 98–9, where it is said that the imperial, unlike the golden, eagle prefers trees to cliffs in nidification.

[13] The meaning of *riqmāh*, as applied to the *nešer*'s plumage (Ezek. xvii 3), is not "divers colours" (R.V.) but "streaking, bars," as the use of the √ *RQM* in the cognate languages shows. The plumage of most if not all eagles is clearly streaked or barred (Meinertzhagen "NBE." 386–94); but the word may be taken as referring simply to the "pattern" of the feathers, which is clearly marked in the vultures.

[14] Tristram "FFP." 94 and "NHB."[2] 172–80.

[15] Meinertzhagen "NBE." 425.

the proverb touching the fate of the unfilial eye (Prov. xxx 17). Finally, descriptions of the nations gathering like the *nešer* from the ends of the earth or gathering to devour the spoil (Deut. xxviii 49 Hab. i 8) refers rather to the vulture than to the eagle; for, while eagles are largely solitary, vultures of one sort or another congregate often in considerable numbers from invisible distances about a fallen camel or other dying or dead beast[16]. Both vultures and eagles live on live or dead prey, the former largely on carrion[17] and the latter on either; but the vulture is probably commonly intended, if only because it is the most easily and often seen of the great birds of prey. At the same time the *nešer* undoubtedly includes the eagle, as it is often translated in the ancient Versions (Vulg.), and it is perhaps certainly this in one or two passages. Thus the description of the *nešer* as flying toward the heaven (Prov. xxiii 5) must refer to the imperial eagle, which is the commonest eagle in Palestine; for this, having a peculiar membrane over the eye, can see against the sun[18]. This eagle, however, is heavy and slow on the wing.[19] In passages therefore which allude to the speed of the *nešer* (II Sam. i 23 Jer. iv 13 Lam. iv 9), the golden eagle, though not so common as the imperial eagle, is perhaps meant, since it can attain a speed of three or four miles in ten minutes[20]. Alternatively one of the vultures may be meant, since these too have wonderful powers of flight. In such a case, indeed, a decision is difficult if not impossible; for the ancient Hebrew is no more likely than the modern Arab to have distinguished a vulture from an eagle flying at a speed high overhead[21].

That the Arab. *nisr* " vulture " is used also for " eagle " by some Arabs[22] (Hava) supports the view that the Heb. *nešer* may designate both birds; which is meant will depend on the context.

The next bird is the *peres* (2), which, too, is probably a vulture; its name means " smasher "[23], so that it may be identified with the " bone-breaker," *i.e.* the ossifrage or bearded vulture[24], or perhaps rather the black or Arrian's vulture [25], which like the true ossifrage has the habit of dropping its victims

[16] Newton " DB." 1017[2].

[17] Cp. Jb. xxxix 27–30.

[18] Bree " BE." I 59. The Ugar. *nšrm* are similarly described as coming from the west, *i.e.* as flying into the sun (Aqhat I ii 56–7); and a prince is bidden " if thou be that princely eagle's bird, show thy descent by groping 'gainst the sun " (Shakespeare 3 *Henry the Sixth* II i 91–2).

[19] Meinertzhagen " NBE." 387.

[20] Matthew " BB." III 113–4.

[21] Tristram " FFP." 98–9.

[22] Also Arab. *nusârîyatu(n)* " eagle " (Freytag) but Copt. *nošer* " vulture." The Gr. ἀετὸς "eagle" is used also for "vulture" (Matt. xxiv 28, Lk. xvii 37), obviously under Semitic influence, as well as for " hawk " in modern Greece (Thompson " GGB." 2).

[23] Cp. Acc. *parāsu* " to break (bones) " (s. Delitzsch *Prolegomena* 154[2]), Heb. *pāras* " broke in pieces (bones, bread) " and Arab. *farasa* " broke (neck)."

[24] Tristram " NHB."[2] 170–2; cp. Arab. *kâsiru-'l'a'ṭâmi* " bone-breaker," which is the *gypaetus barbatus* (Aharoni in *RB.*, *NS*, XLVIII 238).

[25] The Targ. Ps.-Jon. and Talm.'s *'ûzâ*, *'uzyâ*, *'azyâ* for this bird seems to mean " goat-like " and so to describe it by the predominantly black colour of its back; but it has perhaps been confused with the עזניה, which seems to be the bearded vulture.

from a great height on to a rock or stone until the bones are thoroughly shattered, when it proceeds to devour them[26].

The *'oznîyāh* apparently gets its name, altered *per metathesin*, from the √*'NZ*, whence the Acc. *enzu* = Heb. *'ēz* = Arab. *'anzu(n)* " goat " is derived; if this is so, the bird will be the ossifrage or bearded vulture[27], which has a conspicuous beard resembling that of a goat. The ossifrage feeds on marrow-bones, tortoises and snakes, which it takes to a great height and drops repeatedly until it can reach the dainty morsel within; it also devours lambs, kids or hares, which it kills by driving them over the cliffs and then flying down after them to finish them off. It has been known even to attack men climbing rocks, to dash them down and similarly consume them.

There is no doubt that *dā'āh* or *dayyāh* (4) is a hawk or a kite (Vulg.), although the origin of the word is uncertain; for *dā'āh* " swooped " is as likely to be a secondary verb formed from the noun[28] as a primary verb from which the noun has been formed[29]. Is the name perhaps onomatopoeic, being an attempt to represent " queeu-kiki-kiki-kik " which is given as the cry of the black kite?[30] All that is otherwise known is that in the texts from Ugarit *dẏy* and *nṣ* (cp. Heb. *nēṣ* " hawk ") are named in parallel clauses as *raptores* and that in the O.T. the *dayyāh* is said to haunt ruins or waste places (Is. xxxiv 15), while the cognate verb is applied to the swooping of the vulture (Deut. xxviii 49, Jer. xlviii 40 xlix 22)[31]. The prophet's statement that the *dayyāh* and her mate shall be gathered with owls over ruined Edom, however, is awkward; for the black kite does not haunt ruins but nests in trees or on the ledges of buildings in great cities where it is a useful scavenger. What is meant is that the cities of Edom, fallen in ruins and strewn with the dying and the dead, will become the haunt of kites feeding on their bodies.

[26] It is suggested that Targ. Onq.'s *'ār* " watcher " refers to the vulture's habit of watching from a great height for its prey, and that Ar of Moab takes its name from this bird which haunts especially the cliffs of the Dead Sea and the hills of Moab; and significantly this place is called also לְחִית in the Targums (Num. xxi 15, 28 Deut. ii 9, 18, 29 Is. xv 1), since the Alger. Arab. *'abû liḥyah* " father of a beard " = " bearded vulture " suggests that Ar is so called as the haunt of that bird (Aharoni in *RB.*, XLVIII 239–40).

[27] Lat. *gypaetus barbatus* or possibly *aegypius monachus* (Aharoni in *RB.* XLVIII 238). The Gr. *αἰγυπιὸς* " vulture," which is a similar term of which the component elements are *αἰξ* " (wild) goat " and *γὺψ* " vulture," may be compared with the Hebrew name as thus explained.

[28] Tristram " NHB."[2] 170–2. The sea-eagle (LXX, Vulg.) is here out of place (s. pp. 16-17).

[29] Like " hawked " from " hawk."

[30] Formally the Heb. *dā'āh* or *dayyāh* and the Arab. *ḥidâ'u(n)* or *ḥidâyatu(n)*, although both mean " kite," have no philological connection, unless they have a common onomatopoeic origin; the variant spellings of both words suggest something of the sort. The Arab. *da'da'a* " (camel) trotted " and *da'da'atu(n)* " sound of falling stones in a torrent " are similarly onomatopoeic.

[31] Matthew " BB." III 88–9 and Arrigoni *OI.* 431. A similar confusion of *d* and *k* seems to occur in representing the note of the hoopoe (s.p. 18). That the original form of the name is *dayyāh* and that this, being derived from *dᵉyô* " ink," means an inky-black bird (Aharoni) is most unlikely; for this word is probably Egyptian, ink is a relatively late invention, and the Ugar. *dẏ* " kite " is strong evidence that *dā'āh* must have been the primitive form of the name. The cognate Syr. *daiṯâ*, used to translate the Hebr. *dā'āh* or *dayyāh*, is variously explained.

The red kite, although it is considerably larger than the black kite, is not likely to have had a separate name; for it is only a migrant in Palestine and, flying at a great altitude, is not easily seen and therefore cannot have been well known. The same name will therefore have easily served for both birds[32].

The Heb. *'ayyāh* and the Arab. *yu'ya'u(n)*[33] are already identified by Ibn Barûn as denoting the same bird[34], but what this may have been is not altogether clear. The word is obviously onomatopoeic and may reproduce what is called the " shrill whistle " of the honey-buzzard[35], which though scarce is a constant resident in Palestine[36]. It comes also near enough to the " pi-i-iu pi-iu-iu " (if the initial " p," for which there is no sign in the Arabic language, is disregarded) of the ordinary buzzard[37], the monotonous " piip-piip-piip " and the raucous " chiu-chiu-chiu " of the harriers[38], and even the " uerch-uerch-uerch " (where " r " is a semi-vowel and " ch " like the glottal stop in the Arabic name indicates the interruption of the sound of various falcons)[39]. At the same time the Arab *yu'ya'u(n)* is explained by native lexicographers as *šâhînu(n)* " (long-legged) buzzard " *saqru(n)* " falcon " and *bâšiqu(n)* " sparrow-hawk " (Lane). The sparrow-hawk is too small to stand at this point in the list, if the scale of measurements may be trusted, but the buzzard by reason of its great size naturally follows eagles and vultures, while the harriers and some of the falcons do not fall far short of it. The red buzzard, which is as large as a small eagle, is rather common in Palestine, the common buzzard is plentiful on the coast and in the plains, and the long-legged buzzard is " the buzzard of the country."[40] The harriers, especially the marsh-harriers, are all common in the plains and lowlands; they are not distinguished from buzzards by the Arabs[41]. Lastly, there are three large falcons, of which the lanner is far the most frequent, being freely distributed throughout the rocky gorges on both sides of the Dead Sea and the Jordan and ranging as far as the foot of Hermon; it is a permanent resident, and no place is too dreary or too desolate for it[42]. Since buzzards and harriers as well as falcons are *falconidae*, therefore, the *'ayyāh* may be confidently taken to be any large falcon. The only other mention of the *'ayyāh* is a reference to its keen sight (Jb. xxviii 7), which is a well-known characteristic of all the falcons.

[32] The doublet *rā'āh* " seer " (Deut. xiv 11) appears to be a textual error, due perhaps to the falcon's well-known acuity of vision; the word is not represented in all the ancient versions.

[33] These names exactly reproduce the " uieui-uieui-hi-ihi " of the kite (Arrigoni *IO.* 431). What bird the Ass. *ayau* is has not been made out (Salonen in *Orient. NS.* XIX 407).

[34] Wechter in " JAOS." LXI 187.

[35] Meinertzhagen " NBE." II 414–5.

[36] Tristram " FFP." 103.

[37] Arrigoni *OI.* 415

[38] *Ibid.* 421.

[39] *Ibid.* 384.

[40] Tristram " NHB."[2] 186–7 and " FFP." 98.

[41] Tristram " NHB."[2] 190–1.

[42] Tristram " NHB."[2] 187 and " FFP." 104–7.

Both *'ôrēḇ* (6) and κόραξ seem to be names based on the cry of the bird which they represent, apparently the "cruck-cruck" or "pruck-pruck" or "whurk-whurk" attributed to the raven[43]. The *'ôrēb* seems, in fact, to be *omne corvini genus* (Vulg.; cp. LXX, Targ. and Pesh.); for it is described as black (Ct. v 12) [44]and as haunting ravines (I Ki. xvii 4, 6 Prov. xxx 17), while its young ones or perhaps rather it itself[45] plucks out the eyes of its victims (Prov. xxx 17), a habit to which also Aristophanes refers[46]. Both crow and raven are black; both, though they also use trees, commonly build their nests on rocky headlands or cliffs[47], such as overhang the wadis; both attack and kill sickly beasts as large as lambs, while the Mediterranean hooded crow[48] is said to begin the destruction of its victim by picking out its eyes and tongue while still alive[49]. Further, both feed also on any and every form of carrion and refuse, which is one reason why they can be considered unclean. Finally, the raven's habit of storing food in hiding places for future consumption[50] perhaps lies behind the story of those that fed Elijah when he lay hid by the brook Cherith (I Ki. xvii 4–6). Consequently *'ôrēḇ* may be translated "raven"[51] or "rook"[52] according to the sense of the passage in which it occurs.

The next three birds, the ostrich and the night-hawk and the sea-mew, as they are traditionally rendered, raise serious difficulties; for they are by no means of one kind and one at any rate of them does not eat flesh and so can hardly be considered ritually unclean.

The literal meaning of *baṯ ya'ănāh* (7) is either "daughter of greed"[53] (Gesenius) or "the daughter of the wilderness"[54] (Wetzstein) and it has consequently been always explained as the ostrich (LXX, Vulg., Targ., Pesh.)[55]; for this bird is noted for its voracious appetite and is found only in the wilderness. Not all, however, that is said of this bird in the O.T. is applicable to the ostrich. This indeed inhabits the open wilderness but requires water[56] (Is. xliii 20; cp. xxxiv 13), it does not haunt deserted or ruined cities (Is. xiii 21 Jer. l 39), it certainly does not wail (Mic. i 8) but

[43] Butler "BB." II 159 (s. Köhler *Kl.L.* 28). The Gr. κόραφος (Hesychius) appears to be a transliteration of the Semitic name (κ = *ġ*).

[44] The apparently distinct roots Arab. *ġariba* "was black" = Acc. *erē/ābu* "to enter" = Heb. *'ārāḇ* "became evening" = Arab *ġaraba* "set" thus find a common origin in the onomatopoeic name of the crow or raven; for entering, *e.g.* a cave or house (especially an Oriental house), is essentially going from light into darkness or being darkened.

[45] Witton Davies in *Nöldeke* II 648, who suggests that *ben* in this phrase merely indicates the class.

[46] In *Av.* 582 and *Ach.* 92.

[47] Butler "BB." II 159, 163–4. There is therefore no reason to suppose that "the *'ôrēḇ* of the *naḥal*" is a magpie (Aharoni).

[48] Lat. *corvus cornix* (Linn.).

[49] *Ibid.* II 166.

[50] *Ibid.* 160.

[51] Lat. *corvus corax* (Linn.).

[52] The crow of Palestine is the hooded crow (Linn. *corvus cornix*) and has much grey colour on it; a special name therefore seems to be expected for it.

[53] Syr. *yī'en* "greedy."

[54] Arab. *wa'natu(n)* "hard, unproductive soil."

[55] Partly through confusion with *yᵉʿēnîm* "ostriches"

[56] Newton "DB." 665.

booms; nor is it raptorial. These are all habits of the owls[57], so that the *baṯ ya'ănāh* may well be the eagle-owl (Aharoni)[58], a large owl which is found in semi-desert areas covered with scrub, where it rests on bushes during the day and hunts partridges, hares and rodents, by night[59]; in Egypt it inhabits the steep cliff-like sides of mountains and temples whether ruined or intact[60]. In Palestine it occurs more frequently than any other owl except the little owl[61]. The Syr. *ba(r)t yārôrâ* (Pesh.) " daughter of the vomiter " (Mic. i 8)[62] agrees with this explanation of the word; for all owls bring up the indigestible parts of their food in the form of pellets, which can always be found in large quantities beneath their nests. The *taḥmās* (8), whose name means " robber,"[63] is translated " owl " by the earliest Vss. (LXX, Vulg.); the name is appropriate to the owl, which lives by preying on small rodents and birds, taking them alive, but exactly what owl is meant cannot be decided, since no other information about it is available. It is probably a medium-sized owl, since it stands between one of the largest of the owls and one of moderate size; is it the short-eared owl?[64] This, however, is a rare bird in Palestine, which it is said to visit only in winter[65]. The *šaḥaf* (9), translated sea-gull in the earliest Vss. (LXX, Vulg.), is likely from its position to be another owl; and the root, which implies something thin[66], suggests the long-eared owl[67] (Aharoni), which is said to be " a very thin owl, body very attentuated when at rest"[68]. Nothing else is said of the *šaḥaf* in the Old Testament, and the long-eared owl is reported to be plentiful only in the wooded districts of northern Palestine[69].

The series of owls is broken at this point by the introduction of the *nēṣ* " hawk " (10), as the name is translated in the ancient Vss. (LXX, Vulg., Targ., Pesh.). The word is presumably a generic term for small hawks, which come from the point of view of wing-span between the large and moderate and the small owls; it will thus include the kestrel and the sparrow-

[57] Wailing is characteristic of all owls, which are named from this habit (Lat. *ululare* " to howl, wail," whence Lat. *ulula* = Germ. *Eule* = Fr. *hulotte* = Eng. " owl " are all derived).

[58] Whether *bubo bubo ascalaphus* or *bubo bubo aharonii*, a variety found in the desert regions adjoining Palestine and in the Syrian desert (cp. Fuller *ap.* Aharoni in *RÉS.* V 38–9).

[59] Meinertzhagen " NBE." 350–2.

[60] Tristram " NHB."[2] 93.

[61] Whymper " EB." 42.

[62] Cp. Arab. *warra* " threw up, rejected " (Hava). The *yārorâ* is described as inhabiting waste places or ruins and then identified with the owl in a Syro-Arabic glossary (Payne-Smith *Th. Syr.* 1630).

[63] Heb. *ḥāmas* " treated violently " = Aram. *ḥămas* " robbed "; cp. Targ. (Ps.-J.)'s חטפיתא, חטיפיתא " snatcher," which is a translation of this word.

[64] Lat. *asio flammeus flammeus* (s. Meinertzhagen " NBE." 357–8).

[65] Tristram " FFP." 92.

[66] Arab. *saḥufa* " became thin, insubstantial, flimsy; was lean, emaciated " (Lane).

[67] The Arab. *ḥuffâšu(n)* " owl; bat " cannot be connected with the Hebrew word (Aharoni), except as a loan-word in which metathesis has been at work, since Heb. *s* and Arab. *s* cannot be equated.

[68] Meinertzhagen " NBE." 355–6. The Hebrew name may be onomatopoeic (cp. Germ. *Schuhu*, *Huhu*, *Uhu* for the " great horned owl "), if so, the Arabic verb will be denominative.

[69] Tristram " FFP." 91.

hawk. The common kestrel, which is a resident, abounds in the valley of the Jordan and the Eastern forests, in ruins in Transjordan and the desolate gorges of the Dead Sea, in the luxuriant gardens of the south, and over the mosques of Hebron and Jerusalem; the lesser kestrel visits Palestine only in spring and summer, when it frequents churches and mosques or, as at Nazareth, the roofs of old quarried caves. The sparrow-hawk, too, is plentiful, living on sparrows and turtle-doves. The description of the *nēṣ* as spreading its wings to the South (Jb. xxxix 26) refers to the habit of many of the small hawks of migrating, after breeding further north, through Syria and Palestine, Sinai and Egypt, to the basin of the Red Sea rather than to their power of flying in pursuit of game right into the light of the sun without being dazzled by its rays[70].

The hawks would in any case be classified with the owls, since owls were long regarded as a family of *accipitres* and indeed were only separated from them as a distinct order classified as *striges* by ornithologists of the last century[71].

The next group of birds is equally puzzling if the traditional interpretations of their names are accepted; for the little and great owls and the horned owl on the one side and the cormorant and the pelican on the other side belong to totally different orders.

The *kôs* (11) is by general consent an owl (LXX, Vulg., Pesh.); but its name, though apparently onomatopoeic[72], is useless for precise identification. The only other mention of it in the O.T. is as " an owl of desolate places " (Ps. cii 7), which may describe several owls. If the measurement of the wing-span has any validity, it is certainly not the little owl (Aharoni); it is perhaps rather the tawny owl which is seldom seen, since it haunts woods and forests, but of which the unmistakable hoot can often be heard at night[73]. If so, its name more or less accurately recalls the " cho-cho-cho " rather than the long-drawn " hu-hu-hu " followed by a hissing sound or the whistling " tu-whit-tu-whit," which are all given as the note which it emits[74].

The position of the *šālāḵ* (12) in the present list shows that it can hardly be either cormorant or sea-gull[75], although the root seems to indicate some kind of bird that darts[76] on to its prey; and it is described as drawing up fish from

[70] Tristram " NHB."[2] 189–91 and "FFP." 101–2, 106–7; cp. Meinertzhagen " NBE." 406–8. The goshawk is not recorded to the south of the Lebanon (Tristram " FFB." 101).

[71] Newton " DB." 671–3. The distinction, however, between diurnal and nocturnal birds of prey must be ancient.

[72] Cp. Germ. *Kauz*, *Kautz* " tawny owl " (Knobel *ap.* Bertholet *Leviticus* 35).

[73] Tristram " FFP." 92. The tawny owl has been known in England to choose a hole in a ruin or a cave for its daily resting place (Seebohm " HBB." I 155–6).

[74] Arrigoni *OI.* 371. The tawny owl is sometimes called the " hooter " in England (Matthew " BB." III 68–70).

[75] LXX καταράκτης and Vulg. *mergulus*, some kind of plunging or diving bird.

[76] Cp. Heb. *hišlîḵ* " hurled " (cp. Jud. ix 17 and Jon. i 4) and Arab. *salaka* " went forward, entered," whence *sulkā* " straight thrust " and *mussallaku*(*n*) " lean, slender; sharp " (Lane).

the sea in two of the ancient Vss. (Targ., Pesh.[77]). If this explanation is right, may it perhaps be the fisher-owl[78] (Aharoni)?

The *yanšûp* (13) is taken to be the ibis in the earliest Vss. (LXX, Vulg.); this is here out of place and indeed is practically unknown in Palestine[79]. It is rather yet another kind of owl, as suggested by the other Vss. (Targ., Pesh.). The name indicates either one that comes out at dusk or one that blows, hisses or pants[80]. It is elsewhere described in the O.T. as haunting desolate and ruined places with crows or ravens and other owls (Is. xxxiv 11). The *tinšemeṯ* (14) is equally uncertain; it is clearly neither a water-hen (LXX) nor a swan (Vulg.) in view of its place in the list; and neither of these birds is raptorial. It too is probably some kind of owl (Targ., Pesh.), which has received its name from its heavy breathing or panting[81], which is a marked habit of some of these birds. The *yanšûp* may be the screech-owl[82], a very nocturnal bird, which though seldom seen by day is well known and which emits a long-drawn but not very loud hissing or puffing or snoring and raucous shriek, and, if molested by day, snaps its bill and hisses[83]. It breeds in hollow trees, buildings and ruins, but always in darkness, and the young birds snore in the nest[84]. The *tinšemeṯ* may perhaps be the little owl[85], whose low mewing or wailing note, a plaintive "kew-kew," is very often heard at sunset. The little owl is one of the most widely distributed owls in Palestine, occurring in every part of the country; it haunts thickets by the waterside and wells, tombs and the desolate mounds of ruined cities, whence it is called *'umm alḫirâb* "the mother of ruins" by the Arabs[86].

[77] Cp. B. Talm. *Hull.* III vi-vii (63a).

[78] Lat. *ketupa indus* or *ketupa zeylonensis semenovi*. This owl is found only rarely in Palestine (Tristram "FFP" 91). The osprey, however, in spite of its spectacular plumage is too large and the pied kingfisher, although its flesh is probably distasteful, is too small to find a place at this point in the scale of measurements; further, this last bird swallows its prey whole and may therefore not have been regarded as infringing the tabu on blood.

[79] Tristram "FFP." 112–3. Its introduction by the LXX betrays an Egyptian translator; for the ibis is well known as the sacred bird of ancient Egypt.

[80] Cp. Heb. *nāšaṗ* "(wind) blew; (snake) hissed" and Arab. *nasafa* "(wind) blew, whistled"; hence Heb. *nešeṗ* "twilight," as the time when a cool breeze blows (cp. Gen. iii 8 Ct. ii 17 iv 6). The name of a bird is likely to be based rather on the primitive sense of the verb than on a derivative noun.

[81] Heb. *nāšam* "panted."

[82] Lat. *tyto tyto alba.*

[83] Meinertzhagen "NBE." 362–3 and Arrigoni *OI.* 374.

[84] The Acc. *eššēpu*, which is commonly identified with the Heb. *yanšûṗ*, is said to be an ill-omened creature (Rawlinson "CIWA." V 27 c-d 37) and one which howls in the city (*ibid.* IV obv. i 21); the description of it as inhabiting ruins rests on a dubious translation (Thompson "CT." XIV 6 obv. 11). The *eššēpu* has also been taken to be not a bird but a bat (Nötscher in *Orient. NS* III 181), so that the identification must be left an open question. The Arab. *nassâfu(n)* "bee-eater," being a name of similar origin, has suggested that the Heb. *yanšûp* is that bird (Hess *ap.* Köhler); but bee-eaters, of which there are three varieties in Palestine (Tristram "NHB."[2] 208 and "FFP." 88–9), are out of place amongst the *raptores* with which the list here discussed is concerned.

[85] Lat. *athene noctua glaux* and *saharae.*

[86] Tristram "FFP." 93, Meinertzhagen "NBE." 358–60, Arrigoni *OI.* 367.

Last comes the *qā'āṯ* (15), long regarded as the pelican (LXX, Vulg.); for the name was supposed to mean "vomiter" (Heb. *qî'* "to vomit") and the pelican was thought to throw up its food to feed its young (Gesenius). In the first place, however, many birds feed their young by regurgitation, so that such a name is insufficient to specify the kind. Secondly, the pelican is not one of them; swimming under water it catches quantities of fish which it stores in a large pouch hanging from its bill and throat, and it lets its nestlings intrude their heads into it and help themselves to as much of the contents as they want[87]. Further, the pelican, which is hardly recorded in Palestine except by the Sea of Galilee and Lake Hulah[88], lives in the shallow margins of large lakes and rivers, where fish are abundant, whereas the *qā'āṯ* haunts the wilderness (Ps. cii 7) or waste places and ruined buildings in the company of various birds of ill omen (Is. xxxiv 11 Zeph. ii 14). The name is best explained as onomatopoeic, being intended to represent the owl's hoot[89]; consequently Symm.'s *νυκτικόραξ* is not far from the truth. What is meant is perhaps the scops-owl[90], which is very common about olive-groves and old ruins in spring; its cry is given as "yu-hu" or "kiu-kiu" monotonously repeated at regular intervals, whence the Heb. *qî'* "to cry 'kiu-kiu'" will be derived[91].

The *rāḥām* seems, if the meaning of the root may be taken as a guide[92], to denote a white bird or at any rate one with conspicuous white markings; hence it has been translated "swan" or even "peacock" (LXX) or "coot" or "moorhen" (Vulg.), which are all out of the question, since none of them are raptors. The Arab. *raḥamu(n)* "white carrion-vulture"[93] (Lane), which is philologically the same word, has been thought to be the same bird (Aharoni); but the list has already dealt with vultures, and a bird that feeds solely on carrion seems not to come under the prohibition of taking blood. This Arabic name, however, is used also for the sea-eagle and the pelican (Dozy), and there is no reason why the Hebrew word may not designate some such bird, the pelican or the sea-eagle or the osprey. The pelican does not tear its prey and consume it on the spot but stores it in its capacious pouch and is therefore perhaps not likely to have been regarded as a *raptor* in quite the same sense as the other birds in the list. The sea-eagle, although it breeds occasionally in Egypt, rarely wanders to the Syrian coast[94]. The

[87] There is no truth in the legends that the female pelican feeds her young with blood from her own breast and that, in cherishing them, she pierces their sides so that they die and the male parent brings them back to life with its own blood.

[88] Tristram "FFP." 108.

[89] Cp. Arab. *qa'qa'a* "cawed, croaked," whence the *qā'āṯ* has been wrongly identified with the raven or crow (Targ. and Pesh.; s. "JTS." XXII 382-3).

[90] Lat. *strix scops* (Linn.) or *scops giu*. This is preferable to "screech-owl" (Wellhausen *ap.* Torrey "Second Isaiah" 286; s. "AJSL." XXXIII 62), which is perhaps *yanšûp* (s.p. 15).

[91] Tristram "FFP." 92 and Meinertzhagen "NBE." 353–5.

[92] Arab. *raḥamu(n)* "thick milk" as well as well as "vulture with a white neck and body but black wing-tips," *ruḥâmu(n)* "soft white stone," and *'arḥamu* "(horse) having a white head and a black body."

[93] Or "Egyptian vulture" (Lat. *vultur* or *neophron percnopterus*).

[94] Linn. *haliaetus albicilla* (Tristram "NHB."[2] 182–3).

osprey, an almost cosmopolitan bird found also in Palestine[95], then, is perhaps the bird intended here. It is a large brown bird whose head and nape are white with brown streaks and whose lower parts are white. It is appropriately placed here, since certain of its habits suggest an affinity with the owls, while its fishing habits are a pointer towards other fishing birds. Thus, as eagles and vultures stand at the head of the terrestrial *raptores*, so the osprey heads the few raptorial fishers. That *ḥāsîḏāh* (17) means " stork " appears to be a relatively late suggestion; and it is thought to have got the name of " constant, loyal creature," which the word means, because of its conjugal fidelity and filial piety[96]. That " the *ḥāsîḏāh* in the heavens knoweth her appointed times " (Jer. viii 7) seems to indicate a migrant; and the white stork is a migrant in Palestine, where however it only very occasionally remains to breed[97]. Further, although the stork is well known as nesting on houses[98], it does so regularly also on trees; and the black stork is said to put its nest on oak-trees in Bashan[99]. Possibly then the bird meant is the stork; but the heron (LXX, Vulg.)[100], of which there are several varieties in Palestine, must also be considered. The name is equally suitable to the heron, which tends its young with assiduous care[101]; and it regularly nests in large heronries on the tops of trees[102], although for lack of these it will use bushes and even rocks. In Egypt it is both migrant and resident, and it may be both also in Palestine. The probability then is that *ḥāsîḏāh* includes both stork and heron, which belong to the same order, but that, while the common heron[103] may be meant in some passages, the stork which is a most conspicuous bird on migration is probably meant when the reference seems to be to that habit. Further, being far the larger bird, it is probably also intended in the description of the two women of whom the prophet says that ' they had wings like the wings of a *ḥāsîḏāh*; and they lifted up the ephah between the earth and the heaven ' (Zech. v 9)[104]. The *'ănāpāh*[105] (18) has long been a

[95] Linn. *pandion haliaëtus* (Tristram 'FFP." 107).

[96] So also Lat. *ciconia pietaticultrix* (Petronius).

[97] Tristram " FFP." 111–2. The white stork is said not to breed now in Palestine (Meinertzhagen " NBE." 430).

[98] Newton " DB." 919.

[99] Tristram *ibid.* 112, also however says that he has never himself observed the black stork on his short visits to Bashan.

[100] Cp. Migne *Patrol. Lat.* XXII 861, where the Hebr. word is transliterated *asida* and translated *herodius* " heron " by Jerome.

[101] Forbes " BB." IV 6–7.

[102] Newton " DB." 632.

[103] Linn. *ardea cinerea.*

[104] The crane can hardly be included; for, though it is well known as a migrant in Palestine, where it is the largest bird in the country after the ostrich, it nests on the ground on gently sloping isolated knolls where it cannot be ambushed (Tristram " NHB."[2] 239–41).

[105] The Acc. *anpatu* appears to be described in a badly damaged text as a bird of ill omen (Pinches in " JRAS." XXXIX [1911] 1058, 6–10); and one of the Assyrian kings boasts of having captured 20 specimens of it alive across the Euphrates (Budge & King " AKA." I 360 iii 48–9); this suggests an ornamental or useful water-bird. There is no certain proof that the *anpatu* and *eššēpu* (s.p. 15 n. 84) are identical (Meissner *SAL.* III 109[8]). The Syr. *'anpâ*, which is used for the Heb. *'anāpāh* (Pesh.), is variously explained by native lexicographers (Payne Smith *Th. Syr.* 277–8); it may be in origin

puzzle, and the meaning of the word used by the LXX and Jerome for it is unfortunately not certain[106]. The description of it now as a black hawk (Targ. Ps.-Jon. at Lev. xi 19) and now as a white hawk (Targ. Ps.-Jon. at Dt. xiv 18) perhaps gives a hint that it is a bird as much black as white. Further, the root of the name, if it is any guide, may be thought to indicate some bird with a beak shaped like a nose (Hebr. *'ap* = Aram. *'anpā* " nose.")[107]. Accordingly the cormorant, which is a large blackish bird with long neck and white cheeks and chin and has a hooked beak, may be tentatively suggested, especially as it is found in abundance on the coast and beside all the streams inland in Palestine; it is especially common at the point where the Jordan enters the Dead Sea, sitting on a snag and watching for the fishes stupefied by the brine as they leave the river and are carried into the sea. It covers an extensive piece of ground round its nest with a greenish-white excrement, which is fatal to all vegetation in contact with it, and emits a disgusting odour, mingled with that of decaying regurgitated fragments of fish[108].

The Heb. *dûkîpat* (19) = Eg. *qwqwpt/d* = Copt. *koukouphat* or *kakoupat* = Syr. *qâqûpâ* are all, like the Gr. ἔποψ, ὔποψ Lat. *upupa* and the Arab. *hudhudu(n)* " hoopoe," attempts to represent the note of that bird (LXX. Vulg.), which is variously given as " hoh-hoh-hoh " or " bu-bu pou-pou " or " hoop-hoop-hoop "; it is said also to emit a harsh rattling *kor* or *churr* when scolding.[109]. The hoopoe feeds on worms and insects and is not a *raptor*; but, pleasing as its appearance is, its habits are much the reverse. It finds its food among filth, its nest is often foul, and its flesh is tasty but malodorous[110]; it has also an unsavoury reputation, being often connected with magical practices. It is therefore fitly included amongst unclean birds.

The bat (20) is added at the end, though not a bird, because it was regarded as halfway between birds and beasts[111]. It is an insectivorous creature, modified for flying and ranging from the size of a mouse to that of a rat. Some fifteen or seventeen kinds are found in Palestine, swarming everywhere in caves and tombs and disused buildings of every kind. Bats are reckoned as unclean on account of their habit of spattering the walls of houses with ordure as they fly and the overpowering mousey odour of their homes; also, they are quite uneatable.

a mere transliteration of this word. The Gr. ἀνοπαῖα (Hom. *Od.* i 320) is not likely to have any connection with these words, though anciently explained as φήνη " eagle-like vulture " (Eustathius) but perhaps preferably identified with the shearwater (Thompson " GGB." 52–3).

[106] Namely χαραδριὸς (LXX) = *charadrius* (Vulg.) " thick-kneed plover " (L. & S.), but perhaps also or rather a sea-bird, being mentioned with such by Aristotle (s. Thompson " GGB." 311–4).

[107] Hardly as being quarrelsome, on the ground that the nose is used figuratively in many Semitic expressions denoting anger (Ibn Ezra; cp. B. Talm. *Hull.* III vi-vii 63a).

[108] The ordinary cormorant (Linn. *phalacrocorax carbo*), to which this description strictly applies (Forbes " BB." III 165), is as common as the pygmy cormorant (Linn. *phalacrocorax pygmaeus*) in Palestine (Tristram " FFP." 7–8).

[109] Butler " BB." III 46.

[110] Dillmann & Ryssel *Leviticus* 540.

[111] Aristotle *de part. anim.* iv 13; cp. Bar. (Ep. Jerem.) vi 21.

If the interpretations here proposed are accepted, the arrangement of the list becomes intelligible. The birds are all (except the hoopoe and the bat) *raptores*, which all or almost all normally eat carrion (1–3, 6) or take live prey (4–5, 7–18), have physically dirty habits or are inedible (19–20); they are therefore either ritually unclean or unfit for human consumption. They are arranged in a roughly descending scale of sizes by natural families: large *accipitres* (1–5), *corvidae* (6)[112], larger *striges* (7–9), small *accipiter* (10) smaller *striges* (11–15), all primarily land-birds; then one bird frequenting the sea (16) and two frequenting lakes and rivers (17–18), these last two again in descending scale. The hoopoe (19), though not a *raptor*, and the bat (20), though not a bird, are appended on account of their more or less disgusting habits or perhaps rather because they are unpalatable to eat.

Two questions remain to be answered. First, why are comparatively few large *raptores* named while so many owls are specifically named? The reason seems to be that the *raptores*, soaring at immense heights or swooping with sudden speed on the prey, are not easily identified, whereas the owls flying slowly and hooting as they go are readily noted and distinguished; further, most *raptores* build their nests and live in generally inaccessible places, while owls generally have no objection to human habitations and are therefore familiar creatures, easily distinguished according to their kinds[113]. Consequently generic names like *nešer* and *nēṣ* serve well enough for most of the great birds, while the owls are variously named according to their habits or appearance or the note which they emit. Another possibility is that some of the apparently unduly numerous names for the owls may not in fact have denoted different kinds of owls but may have been local or descriptive names for the same bird (like, for example, the English " barn-owl " and " screech-owl," which are two names for the same bird); this is especially likely in the case of onomatopoeic names, since animal sounds are notoriously difficult to reproduce. Second, why is " according to its kind " added after the names of four birds? Clearly *'ôrēḇ* (6) and *nēṣ* (10) are generic terms for whole classes of birds, and possibly *'ănāpāh* (18) is a general term for any number of small raptorial birds hunting fish in river, lake or sea. Why it is added after *'ayyāh* is not so clear. The term presumably includes other kites which occasionally visit Palestine[114], and possibly also harriers and buzzards, of which there are several varieties there[115]; their reddish or rufous colouring will account for their being subsumed under red kites, and their feeding habits will explain their position amongst unclean birds, the harriers usually taking live prey though not disdaining to compel a heron to disgorge fish for their consumption and the buzzards living chiefly on live prey taken on the

[112] The Arab. *ġurâbu-'llaili* and the Gr. *νυκτικόραξ* " the raven of the night " for " owl " illustrates the connection of thought between these and the following group of birds.

[113] The eight varieties here identified correspond exactly, though perhaps by chance, to the number of owls said to occur in Palestine (Tristram " FFP." 90–3).

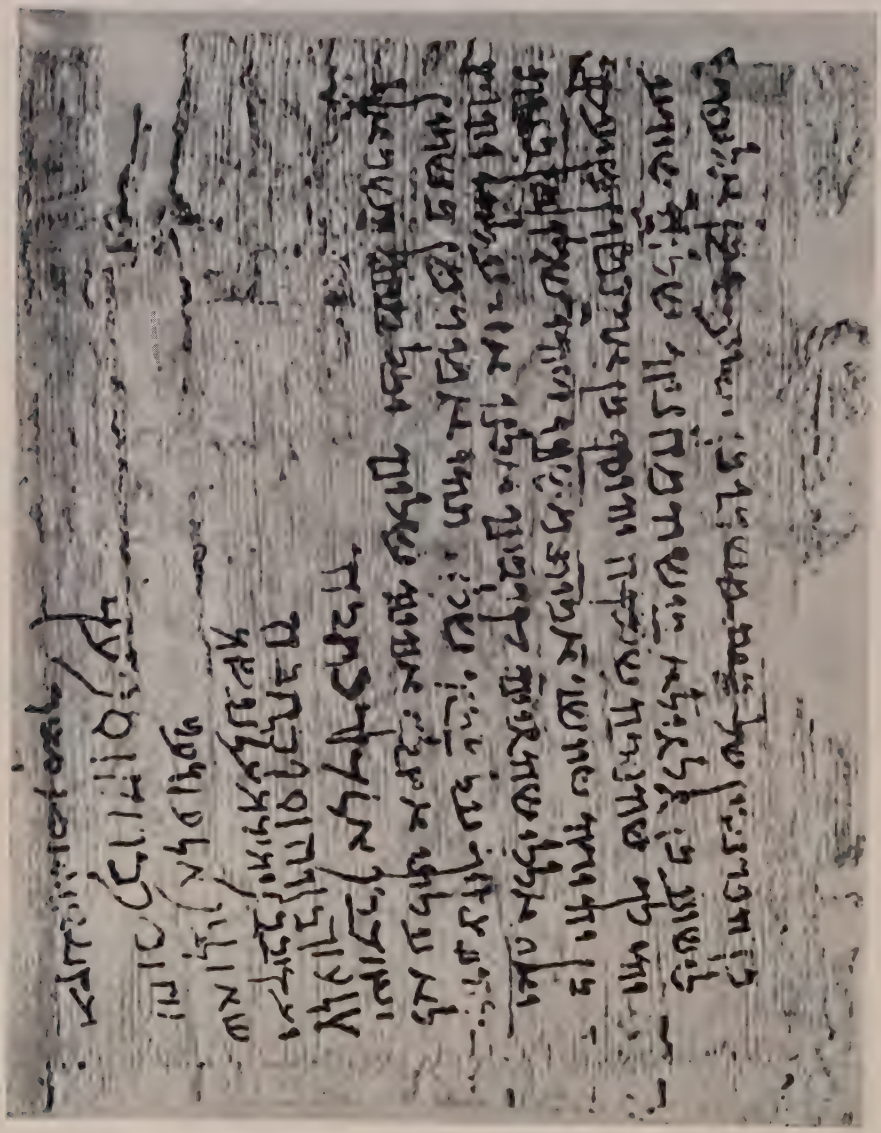
[114] Tristram " FFP." 102–3.

[115] *Ibid.* 97–8, 103.

ground as the chance occurs. Both like other *raptores* bring up the undigested parts of their food.

In conclusion, I am happy to express my thanks to Dr. D. L. Lack, Director of the Grey Ornithological Institute (Oxford), for expert advice in the preparation of this article.

Hebrew name	*Traditional translations* A.V.	R.V.	*Suggested identification*	*Approximate size of bird:* Total Length	Length of wing in inches.
1. *nešer*	eagle	eagle	griffon-vulture	45	29
			(golden) eagle	34	$23\frac{1}{2}$
2. *peres*	ossifrage	gier-eagle	black vulture	[45	28]
3. *'oznîyāh*	osprey	osprey	bearded vulture	45	31
4. *dā'āh*	vulture	kite	(black) kite	23	17
5. *'ayyāh*	kite	falcon	saker falcon	22	$15\frac{3}{4}$
			common buzzard	17	15
6. *'ôrēb*	raven	raven	raven	22	$15\frac{1}{2}$
			rook	$18\frac{1}{2}$	$11\frac{1}{2}$
7. *baṯ ya'ănāh*	owl	ostrich	eagle-owl	18	$13\frac{1}{2}$
8. *taḥmās*	night-hawk	night-hawk	short-eared owl	14	12
9. *šaḥap*	cuckoo	sea-mew	long-eared owl	$14\frac{1}{2}$	12
10. *nēṣ*	hawk	hawk	kestrel	14	10
			sparrow-hawk	$12\frac{1}{2}$	8
11. *kôs*	little owl	little owl	tawny owl	16	11
12. *šālāk*	cormorant	cormorant	fisher-owl	?	?
13. *yanšûp*	great owl	great owl	screech-owl	13	$11\frac{1}{2}$
14. *tinšemeṯ*	swan	horned owl	little owl	[$10\frac{1}{2}$	7]
15. *qā'āṯ*	pelican	pelican	scops-owl	8	6
16. *rāḥām*	gier-eagle	vulture	osprey	33	24
17. *ḥăsîḏāh*	stork	stork	stork	44	24
			heron	38–9	$18(\frac{1}{2})$
18. *'ănāp̄āh*	heron	heron	cormorant	33	$13\frac{1}{2}$
19. *dûkîp̄aṯ*	lapwing	hoopoe	hoopoe	12	9
20. *'āṭallēp̄*	bat	bat	bat	—	—



The Beth Mashku Document.

THE BETH MASHKU DOCUMENT*

By S. A. Birnbaum

The initial sentence of *Bar Kokhba and Akiba*[1] applies also to this document: the forms of the letters are already rather close to what is termed fully developed Square script. However, the differences are still of sufficient importance to lead our modern eyes astray.

The Introductory Formula.

The first word occurs three times in the initial line. Does it start with a *K* or *M*?

In those mems of our document about whose identity there is no question, the top stroke is a tick. From its bottom end a stroke slants down to the left. When the base is horizontal and not too short, that slanting line runs rather near to the end of the base, the effect being that the letter is nearly closed.

While the rest of the letter under examination more or less tallies with this description, one essential stroke is absent—the slanting line which comes down from the tick. This makes the reading *M* impossible. We cannot assume that this crucial stroke was accidentally effaced in all three identical words in this line and survived in משבו, in the same line.

Let us now look at the kaphs of our document. They consist of a top tick, a downstroke and a base, *i.e.*, they are identical with our sign, which is thus an undoubted *K*.

The suggested vowelling *kān*—reported by Albright from the Jerusalem Press[2]—is based on legal usage. On the other hand, our papyrus is not simply a legal document, it is a letter as well. It does not seem feasible to make the two lines independent of each other by taking l. 1 as the beginning of the legal contents and l. 2 as the initial formula for the epistolary section. Hence, in our document, l. 1 is parallel to the first line of the Bar Kokhba Letter which reads: מן שמעון בן כוסבה. Having made up our mind on this point we are, however, still not in a position to vowel the word with certainty—it might be *kān* or *ken*; in either case the word "say," or something similar, would, I think, be understood: "Here/Thus (say) the *parnāsīn*."

* The present article is based on my own readings but reference is made to the excellent studies by R. de Vaux (*Revue Biblique*, 60:269 ff), J. Rabinowitz (*Bulletin of the American Schools of Oriental Research*, 131:21 ff) and H. L. Ginsberg (ibid., 26 f), as well as to the joint article by O. H. Lehmann and S. M. Stern in *Vetus Testamentum*, 3:391 ff).

[1] PEQ vol. 86, p. 23.

[2] BASOR 131:24.

Parnāsīn.

Is this word written with *S* as in the Talmud and Midrash or with a *Ṡ* Enough of the letter in question has survived to enable us to decide. The left stroke is sufficient for the purpose. On top there is clearly a trace of a tick or a head. Not one of the sīns has anything resembling it. On the contrary, they all bend or curl to the right. Our sign is therefore not *Ṡ*. On the other hand, comparing it with the *S* in l. 3, we find that the surviving strokes are in conformity with the corresponding ones in this specimen. Hence we have no new spelling of the word here.

Aramaic or Hebrew?

It has been suggested that the commander's title should be read ריש not רוש. There is, however, throughout this document no difficulty in distinguishing between *W* and *Y*. *W* is always bigger, *Y* is never of line height. In our word the ink has flaked off from the lower part of the stroke but its bottom end is preserved. Hence what we have here is an undoubted *W* and the title is in Hebrew, not in Aramaic.

By the way, if the whole title had been taken over bodily from Aramaic, then we would expect the second part of it to be in that language, too. It is, however, in Hebrew—המחניה—like all the rest of the message.

The Men.

The end of the fifth word in l. 2 is slightly effaced but enough is visible to enable us to establish the reading. There are many hês in the document and not one of them is a symmetrical figure, *i.e.*, with a tick on both ends of the top bar. In the 13 distinct hês of the text and 8 clear hês of the signatures, the top stroke ends at the right shaft. The shaft generally starts a little above the top. What we see on the right of our sign does not, therefore, belong to it but must be something else. The small vacant space between the shaft and the dot on the right was always vacant, *i.e.*, it is not a spot from which the ink has come off, connecting the dot with the shaft on the left and the little stroke on the right. The dot was originally connected with the top of the little stroke, being the end of an upstroke to it. In other words, what we have here is a *Y*, like, *e.g.*, the third letter from the end of the line. This spelling is an early example of seghol being rendered by *Y* as a mater lectionis. There is no reason why we should discard de Vaux's reading, as has been suggested.

Imperfect or Perfect?

Is the second letter after *ṡprh* in l. 3 a *Y*? The yodhs of our document consist of a little upstroke and a straight downstroke. The letter in question would have to be that downstroke. It is not, however, straight but curved. Hence the reading *Y* cannot be right. There is only one letter of which it can be a remnant: *L*. What is effaced is not the upstroke of *Y* but the top and middle strokes of *L*. Thus our word is שלקח " which he bought."

This makes the awkward rendering of the verb in the present tense (or in the future tense, according to another suggestion), unnecessary. The imperfect expresses incompleteness. From the context, however, there can be no doubt that the cow had already changed hands.

Attestation?

In this document the main difference between *W* and *Y* is in their size: *W* is longer. Accordingly in l. 4 the second letter of the third word is *Y*, followed by *W*. The last letter of this word cannot be *R* because of the small horizontal stroke issuing from it at the line bottom; this is clearly part of a base—and the only letter with a downstroke and a base projecting to the right is *B*. De Vaux's reading as שושב " who dwells " is thus confirmed.

'byt.

Yalon was doubtless right when he equated אבית in the Habakkuk Scroll with the same form in Tosephta and Baraitha, pointing to J. N. Epstein's מבוא לנוסח המשנה, p. 1258 f. This de Vaux applied to the אבית of our document (l. 4). What were the vowels of this word, and how did it develop from בבית? Perhaps the evolution ran on something like these lines: *bəbēt* > * *bbēt* > * *bbēt*. Now, gemination did not occur in an initial position. The doubled consonant was therefore transferred to a medial position by the creation of a new first syllable, to which the first half of the long *b* would belong. As a vocalic beginning was not possible in Semitic, the syllable had to begin with an aleph: * *bbēt* > *'əbbēt* or *'abbēt*[3] This avoidance of initial gemination is in line with the general avoidance of an initial consonantal cluster: instead of two different consonants there is a doubled one here. Epstein drew attention to the Phoenician forms אבמקדש and אבחי אבי, which occur side by side with במקדש and בחי אבי.[4] He was perhaps thinking only of the prosthetic aleph before the preposition ב, but this aleph is, of course, frequent before many consonants in Phoenician and in the other Semitic languages.[5]

One Word or Two?

Do the last six letters of l. 4 constitute one word or two? At first glance the interval between the second letter and the third suggests two, especially as the signs tend to get crowded at the end of the line. However, in case this interval happens to be accidental, we shall examine the individual letters. The first sign is almost closed by a slanting stroke which issues from the top tick, and is clearly a *M*. The other specimens of that letter confirm this identification. The base does not project to the right. The dark patch on the right does not belong to any of the strokes but to the texture of the

[3] In looking through Epstein's list, I find some examples of a spelling which seem to confirm this suggestion: אבבית. This is presumably a transition form—the original בבית is preserved but the new pronunciation is indicated by the aleph.

[4] *i.e.*, בחיי.

[5] Brockelmann, Grundriss, § 82. An analogous device is found elsewhere, *e.g.*, *spiritus* > *espirito*, *esprit*, etc.

papyrus. It has been suggested that the subsequent sign is a *Z*, superimposed onto the lower half of the long-tailed final *N* from the line above. However not all the downstrokes of this writer's finals are of such extraordinary length. The nûns in l. 1 and the *k* in l. 3 do not run beyond the ceiling of the subsequent line. Careful inspection of what is supposed to be the lower half of our final nûn shows that it is slightly further to the left than the alleged upper half. In other words, the two do not form a continuous line. If they did, the stroke would unaccountably have changed its direction, and that just at the ceiling of the lower line. It is most unlikely that the writer wrote a *Z* straight onto the tail of the final nûn. If he had done so it would have caused a thickening of the underlying stroke, but not the slightest indication of that is apparent. Elsewhere he clearly avoided doing such a thing: in l. 7 the left stroke of the first *T* is coterminous with the downstroke of the *k* above it, but it keeps its separate entity; at the end of the same line care is taken to write the aleph and *L* to the right and left of the tail of the final *N* from the line above. In addition, the head of the *Z* at the end of l. 1 is horizontal, but the triangle we have here at the line ceiling, is caused by a narrow curve like that in all the specimens of final *N*. Our sign is therefore not a *Z* but a final *N* (also de Vaux's reading). It is, in fact, a perfect replica of the letter above it. Our word is accordingly מן, and it remains for us to deal with בנות.

שלו follows straight after the name and description of Jacob ben Judah, the former owner of the cow. The relative clause שהי שלו מן בנות is therefore to be regarded as part of the description, *i.e.*, it refers to him, not to Jehoseph ben Ariston whose name is further away. This clause seems to specify how Jacob ben Judah originally came to own the cow, and that would be contained in the words מן בנות. On the face of it, there does not perhaps seem to be much likelihood of this being simply the word "daughters." If it referred to his own daughters, where is the suffix? Nor is it very likely to be a construct with the name of the father accidentally omitted. For we would expect some qualifying designation, as in the case of the other persons (apart from Jehoseph ben Ariston, about whom see below, p. 27): "the *parnāsīn* of Beth Mashku," "chief of the camp," "resident of Beth Mashku," "witness," etc. Could מן בנות perhaps be a specific term denoting a certain kind of inheritance through the female line? I am rather inclined to doubt it[6].

Zayin or Nûn?

The reading בזות instead of בנות has been suggested. *Z* (l. 1) is straight. Our sign, however, is a curve; it has moreover, an unmistakable base.

[6] My colleague, I. Wartski, suggests the reading *min bēnōt*. Adducing מן יציב (Dan. 2:8) and other adverbial expressions with מן, he translates "meanwhile, for the time being." He thinks the clause refers to Jehoseph ben Ariston. *Bēnōt* is an attractive reading but how is one to work it into the interpretation of the document as a whole?

Hence ז is out of the question. One letter tallies with the nûns in the document.

The Heathens.

In the third word of l. 5, the two signs before the last are identical. If therefore the first were to be read *W*, the second could not be ר (and we would have גוום which is impossible). The signs are too short and small for *W*, and far too curved. What we have here is simply a defective spelling as far as the *o* is concerned and a plene one for *i*, as in Gen. 25:23 and Ps. 79:10, resulting in גיים.

'Azay or 'Ani?

In l. 5, in the second word before the last, the middle letter is not a straight line, as in ז (l. 1) but a curve as in נ. It has not a horizontal head like ז but a pointed top as in some of the nûns. The base is effaced like so many other strokes, or parts of strokes, in this document. Our word is אני. It makes good sense: " I myself would have come up."

Imperative or Not?

It has been suggested that the last four letters in l.5 constitute an imperative. That cannot be the case for the simple reason that the ṣ has not the final form (as de Vaux has already pointed out), being identical with the one in ארצטון. If it were a final, the downstroke would, no doubt, be as long as in the *n* and *k* of our document. Nor can והפצ be taken as an imperative on the assumption that it is in the plural; a *W* would then have to follow the ṣ—for which there would be enough room; but the space is vacant.

These four letters are the beginning of a word. The writer does not, by means of careful spacing, attempt to avoid a gap at the end of a line: when he arrives at the margin without having reached the end of his word, he abandons the incomplete word and starts it anew in the next line. This system is familiar to us from the Cave MSS. and from the Middle Ages. (Both de Vaux and H. L. Ginsberg realised the true nature of these redundant letters in the present manuscript.)

Pṣ, 'ṣ or Pṣr?

The third letter in l. 6 cannot be an ayin. Its base is short and horizontal while that of ayin is long and slanting.

In all the specimens of this letter the left stroke slants to the right, in our sign it slants to the left and even crosses the base, a thing that does not happen in any of the ayins. That stroke is simply the end of the final *P* in the line above (as de Vaux has pointed out). Thus the meaning " advice "—which would not make good sense, anyhow—is excluded. The base of the ṣ apparently has a small oblique stroke on the left; in later times this could have been a flourish, but it would be too early for that here. Careful scrutiny

shows that it touches the base but is not the continuation of it. The only possible connection can be with the little stroke somewhat further to the left, at the line ceiling; the link between them would then have been by means of a very shallow curve. Together with the shaft on the left, to which the curve would have been joined by the little top stroke, they would form a *T*. This is also de Vaux's reading. The traces on the left of *Ṣ* can in no way be combined to form a *R*. There is simply no room here for any letter except *Y*—and the traces cannot form part of a *Y*. On the other hand, this shaft cannot, together with the stroke on its left, form a *T*: there is no bridge between the two; the left stroke would have to be taller, there is no room on the left of its bottom end for a longish horizontal foot, even if we assumed that it is only effaced here. De Vaux's reading צתיך is beyond doubt, and the reading הפצרתיך consequently out of the question.

פיץ *or* פצי *?*

The sense " libérer, dégager " does not seem to offer an attractive solution to the problem. The help of one villager—or even of several (if we assume that he included the others as a matter of course)—would hardly have meant much to an organised military force.

If we knew whether על כבה refers to the legal contents of the preceding text or to the words about the heathens, it would be easier to explain the verb והפצתיך. At first glance either is possible. However, let us consider the following. If על כבה refers to the heathens, then קרבים would probably have to be read *qərēbīm* " are approaching " because the reference would obviously be to enemy movements, in a report to a military commander like Jeshua. Now, if the purpose of this sentence was to inform him of the approach of the enemy, two things would not be easy to understand: why so vital a piece of intelligence should have been put in the protasis of a conditional sentence, and why, in fact, the whole sentence should have been placed at the end of the document. It would surely have deserved pride of place. Finally, if it had been a question of giving a piece of intelligence, the root ידע with its precise meaning would presumably have been used, as in l. 2. For these reasons it seems to me preferable to regard על כבה as relating to ll. 3–4.

There remains the question as to why it should have been necessary to inform Jeshua ben Galgola about this business transaction? We would have to assume that he was not only in command of the garrison but that he was head of the civil administration for the district as well. De Vaux does think so, pointing out that such a thing would be normal at a time of armed revolt. Rabinowitz's explanation—Jacob ben Judah was afraid the military authorities might confiscate the cow—is ingenious but would still not explain why this matter should dominate—as it does—a document which, according to his theory, is in the first place a situation report to the military commander. From all that it seems that והפצתיך is unlikely to have anything to do with the idea of information.

Can the root פצי perhaps solve our problem? Its piel means "to compensate," and assuming that its hiph'il might—as in so many verbs—denote the same as the piel, the meaning might be "to compensate." But why should it have been necessary to compensate the garrison for the sale of somebody else's cow, and why should the writer have had to go in person and report the transaction to the commander? We shall discard this root.

If we adopt Ginsberg's etymology (פיץ < פיס), which has independently been mentioned to me by Wartski, we might try another sense of the hiph'il of פיס—that of "arbitrating, deciding." The meaning would then have been: "I would have left the decision to you." But why should the military authorities be concerned with a private business transaction between some peasants?

Looking for a possible reason we might perhaps think of an illegal action: Is לקח by any chance not "to buy" but "to take away illegally?" I do not think so. For that type of acquisition there are the legal and colloquial terms גזל and גנב.

Since לקח need not necessarily mean "to buy" could it here signify "to take away a thing without having paid"? Perhaps this was a case of requisitioning, Jacob ben Judah's cow having been requisitioned by Jehoseph ben Ariston? As the matter is dealt with in a document-cum-letter addressed to Jeshua ben Galgola it might be inferred that Jehoseph ben Ariston was one of Jeshua ben Galgola's men and had acted on his orders. That would also explain why his signature does not appear on the papyrus—at the time of writing he is again with Jeshua.

How would this interpretation affect our derivation and rendering of הפצתיך? If לקח here means "to requisition" it would be quite natural to connect הפצתיך with the idea of compensation. We mentioned above that the pi"el of the root פצי means "to compensate." We shall therefore go back to that root. Its hiph'il should mean "to cause to compensate, ask for compensation, arrange or discuss compensation." Our earliest occurrence of the sense "compensate" seems to be in B.Kethub. fol. 91 b. The names Rami bar Ḥama and Raba place this passage into approximately the second quarter of the 4th century or slightly earlier. That is only two centuries later than our document, and it does not seem out of the question that we should meet with that sense already here, in 132–5. If so, our derivation would be possible.

Omer or Amur?

In l. 6 it would be more convenient to read אמיר, the active participle (with plene writing of the second vowel), rather than אמור, the passive participle. But the sign between *M* and *R* is too big for a *Y* so that we have to decide in favour of the lectio difficilior, the passive voice.

Castra?

In the last word of l. 6, the first letter cannot be *K*. In those kaphs about which there is no doubt, the downstroke and base form an angle, written in one continuous movement. In our sign the base juts out slightly to the right. This form occurs in some specimens of *B*. What we have here is the root *bsr* suggested by Albright, and independently of him, by Wartski. The mater lectionis is a *W*. (This was recognised also by Rabinowitz and Wartski.)

First or Second Person?

According to the excellent suggestion of de Vaux the aleph of אהיה is prosthetic. The following reasons seem to me to speak for this explanation. It would be rather striking for a writer to conclude his letter with good wishes for himself. It would be even more striking if he did not add any for the addressee to whom he has written in a deferential manner. Another consideration in favour of taking אהיה as the imperative may be this. Could not this perhaps be a similar case to אבית, discussed above (p. 23)—similar in that the aleph would have the function of preserving the consonantal cluster at the beginning of the word. For we know that in those times the /h/ was liable to disappear. Thus our imperative /hje/ was prevented from becoming /je/ by a prosthetic aleph: /əhje/ or /ahje/. (As in אבית, this device would presumably have been used instinctively.)

Although it is, of course, not impossible to regard אהיה as in the first person, the claims of the second person seem to be stronger.

The Signatures.

Everyone of these six country folk could write although they were clearly not skilled in handling the pen. The latter does not, however, explain the many striking features in the forms of their letters. A detailed examination leads to an unexpected result.

Some of the letters seem to be at a different stage of development from those in the text part of the document. Others are not what they seem to be. *E.g.*, the second letter of l. 13 is an ayin but looks like a *D* or *R*—and how could an ayin be confused with a *D*/*R*?

Looking at these unusual letters, it struck me that they bore a striking resemblance to those in a fragment I had deciphered some months previously[7]. Our chart—showing the alphabet of that Murabba'at fragment[8]—may enable the reader to compare the forms there with those written by the signatories. We shall go through all the un-Hebrew forms in the signatures.

B: While in the body of the document (*i.e.*, ll. 1–7) the base projects only very little to the right, this is very pronounced in ll. 8, 10, 13. In ll.

[7] "A Fragment in an Unknown Script" and "An Unknown Aramaic Cursive" (Palestine Exploration Quarterly, vol. 84, p. 118 ff, and vol. 85, p. 23 ff, respectively).

[8] The first two lines of the chart show variants of 18 letters, ll. AA and BB contain 5 letters (and variants) about whose identity there was some doubt. (Cf. note 10.)

8 and 13, to be precise one would have to speak of the whole of the base as projecting, because the leftward slant of the downstroke is so great that it finally joins the left end of the base. The letter tallies with that of the chart, except that in l. 8 the top stroke starts as a tick[9] as it does in the Hebrew shape: the result is a mixed form, possibly an attempt to Hebraize the ' Murabba'at ' form or a ' Murabba'at ' influence on the Hebrew form.

D: Instead of the straight top stroke starting as a tick (ll. 4, 11) we have here (l. 10) a curve; the downstroke bends to the left, while in Hebrew it slopes to the right. The letter is intermediate between Hebrew and Murabba'at. The daleths in ll. 12, 13 are Hebrew, but uncharacteristic.

H: In all specimens the right shaft clearly projects on top as in Murabba'at. In Hebrew the top stroke and right shaft are joined to form a corner; now and then, when they have been carelessly joined, the shaft projects a little. In one or two specimens only (l. 8 and presumably in the second *H* of l. 12) the top stroke has the Hebrew form: straight and starting with a tick. In l. 9 and in the first specimen of l. 12 we have the arch of Murabba'at. The *H* of l. 13 is so mutilated that it is hard to decide what it was really like. The top strokes in l. 10 to some extent approach the Hebrew but consist of a very obtuse-angled tick only, not, as in Hebrew, of an initial, very acute-angled tick and a very long straight horizontal. The left downstroke in l. 10 is not parallel with the right one—as it would be in Hebrew, where the left stroke issues from the middle of the top stroke; instead it slants to the left issuing from the top right-hand corner. This is the form we get in Murabba'at. The right stroke is everywhere straight as in Hebrew. Thus all the hês in the signatures are of mixed Hebrew and Murabba'at types.

M: The Hebrew form has a base, usually long, at right angles to the downstroke. The specimen in l. 13 differs essentially, instead of the base there is an angularisation of a deep curve, as in Murabba'at. The left stroke is very long, reminiscent of the Murabba'at form. Thus the letter is a mixture of Hebrew and Murabba'at.

Final *N:* The tops of the letters in ll. 8, 11, turn to the left wherein they differ both from the Hebrew and the Murabba'at forms.

Ayin: In ll. 1–7, the right stroke is bent into a practically vertical top part and a sloping down-stroke which descends below the line bottom. The left stroke is more or less parallel with the other top stroke and runs to the middle of the slanting stroke. In ll. 8, 13, the right stroke is straight and does not extend below the line bottom, while the left stroke is curved and runs horizontally to the top of the right stroke. That is the Murabba'at form. The ayins of l. 10 are mixed: the right stroke is slightly bent but does not run below the line bottom, and the top part is not vertical. The left stroke is curved but does not run to the top of the right stroke.

[9] The second specimen, somewhat incongruously, continues as a curve, as in the chart.

Q: Instead of the big triangle of the Hebrew form we have here a very flat one (l. 13) or actually two parallel horizontals close to each other (l. 10).

Ṣ in l. 8 is of the Murabba'at type.

T: In l. 8 the bottom of the left stroke is looped with the top of the right one. This tallies with Murabba'at as against Hebrew. In l. 9, a tick is added to the bottom of the right stroke. It looks like an erroneous reflex of the little stroke or curve to be found in the Hebrew form at the bottom of the left stroke.

To sum up: We have in the signatures three kinds of letters: (*a*) of the Hebrew type, (*b*) of mixed Hebrew and Murabba'at types, (*c*) of pure Murabba'at type.

Reason for the Mixed Types

Such a mixture of types of different scripts presents an unusual state of affairs. How are we to account for it?

Perhaps the explanation is that the script of the Murabba'at Fragment[10] was that ordinarily employed by the Beth Mashku Jews and that its imprint can be seen on their Hebrew alphabet, when they did use it. The more closely two forms of script (or language) are related the more easily do such things happen.

The signatures would show that the extent of this influence varied with the individual. They obviously did not write much at all, and such people would be the very ones to be most easily influenced.

The Writer

In the writing of the body itself of the document, however, there is no trace of " Murabba'at " influence. The man who penned it was educated enough to write Hebrew but he was neither a scholar nor a professional scribe; the latter is clear from the irregularity of his writing and from the fact that he found it difficult to keep to the lines—which is particularly striking as the texture of papyrus is an aid towards keeping straight. There is a roughly contemporaneous scribal hand available for comparison.[11]

The Date of the Murabba'at Fragment

The Beth Mashku document has also a bearing on the dating of the Murabba'at Fragment. The identity or near-identity of certain letters in the two documents suggests that they are not very far apart in time. The date suggested by us on palaeographical grounds in PEQ 85, p. 41 was:

[10] And now of another papyrus (unknown to me when the present article was sent to the Editor, and published since by J. T. Milik in *Revue Biblique*, vol. 61, pp. 182–190). This new material, unlike that narrow, mutilated scrap, the Murabba'at Fragment, consists of a complete text of considerable length and has made it possible to clear up the unavoidable uncertainties of my ed. pr.

[11] Revue Biblique, vol. 60, pl. 12, fig. a.

" about the second half of the 1st cent. C.E. . . . or fairly close to it." This is now confirmed by the Beth Mashku Document, whose date, 132–5, is certain.[12]

Origin of the " Murabba'at Script "

Perhaps we can learn something from the Beth Mashku Document about the origin of the " Murabba'at script." Mashku, as de Vaux has pointed out, is a Nabataean name, so that the village might have been a Nabataean settlement. Now the " Murabba'at script " is closely related to the Nabataean alphabet. (See my article in PEQ 85, p. 40.) That would indicate that the " Murabba'at script " grew up in places where Jews and Nabataeans lived side by side. Incidentally, if that is so, the Beth Mashku Document confirms the result we reached, without a knowledge of these signatures, in our examination of the Murabba'at Fragment, namely, that the " Murabba'at script " stands in a special relationship to the Nabataean alphabet.

The Language.

Like the Bar Kokhba Letter our document shows that in addition to what we know of its rôle as a literary language, written Hebrew was at this time used also for ephemeral purposes. A plain literate person in a village who was neither a scholar nor a scribe was able to write it.

Does this document contain any indication as to what was the spoken language of those who sent it?

The colloquial of the Nabataeans was Arabic. No traces of that tongue are to be found in our papyrus.

From what we know of the linguistic situation in those regions at that time it is a matter of course that we should expect to meet with indications of Aramaic influence. What we find is:—

(*a*) In l. 12 there is the Aramaic בר (as pointed out correctly by Lehmann/Stern, l.c.).

(*b*) The spelling with aleph in גלגולא (l. 2) is Aramaic (the Bar Kokhba Letter has *H*: גלגלה)[13].

(*c*) The ending *īn* (l. 1) is Aramaic. Whatever the real nature of this form in the Bible, it could hardly be an ancient Hebrew survival here in פרנסין.

(*d*) Whether the final *H* of l. 10 is Hebrew or Aramaic depends on the meaning of the word. Everybody's first reading surely is—like de Vaux's—" for himself." It has been objected that נפש as a reflexive pronoun is only of rare occurrence in Mishnaic Hebrew and that we should equate it with the Mishnaic גוף, meaning " essence." However, this is on the assumption

[12] A further corroboration is now afforded by the second Murabba'at deed, which actually bears a date—134 C.E.

[13] The הי (l. 4) without aleph is presumably a phonetic spelling rather than a result of Aramaic influence, since the Judaeo-Aramaic spelling is also היא, as in Hebrew.

that the word is Hebrew—which is precisely what we do not know. But even if it were, it could have been employed here in the rare, reflexive sense, or its meaning might have undergone Aramaic influence. Rather than postulate a new meaning (" essence "), it is preferable simply to read " self." In that case the suffix would be masculine and the word, accordingly, Aramaic[14].

(*e*) The root *bsr* (l. 6) is known to us from Midr. Rab. Ex. and Tanḥ. and so an Aramaic derivation seems likely.

(*f*) The ultimate source of פרנס (l. 1) is controversial but, as it appears only late in our Hebrew sources, is present in Syriac, and came via Syriac into Arabic, it would be reasonable to suppose that it is an Aramaic loanword in Hebrew, too.

Taken together, these points would indicate that the language of our document had an Aramaic background[15]. It therefore seems reasonable to assume that Aramaic was the mother tongue of the Beth Mashku Jews.

The Text

1 כן הפרנסין של בית משכו בן ישוע וכן אלעזר
2 לישוע בן גלגולא רוש המחניה שלום שידע
3 יהי לך שהפרה שלקח יהוסף בן ארצטון מן יעקב
4 בן יהודה שיושב אבית משכו שהי שלו מן בנות
5 ואף אללי שהגיים קרבים עלנו אני עלתי והפצ
6 והפצתיך על כבה שלא תהי אמור מן בשרון
7 לא עלתי אצלך אהיה שלום וכל בית ישראל
8 ישוע בן אלעזר כתבה
9 אלעזר בן יהוסף כתבה
10 יעקוב בן יהודה על נפשה

[14] The final hês in ll. 8 and 9, might be Aramaic. If כתבה were to be a noun it would be Aramaic. Its spelling with *H* would then be in contradiction to that with aleph in גלגולא (l. 2). However, in view of the many orthographic irregularities in our papyrus, this would be of little account. If כתבה were a noun, it could hardly mean " writer." That we have hitherto not come across such a word would not disprove that it existed, but the two people against whose names it is written could not *both* have been the actual writers of a document which is in one hand—a hand very unlike either of their signatures. One would therefore have to assume that כתבה meant " a man who causes something to be written." Such a noun seems very unlikely; it is preferable to take כתבה as a verb with a pronominal suffix. (The word used in the scribal formulae appended to the Elephantine letters and deeds is a verb [כתב]).

For the reason just given כתבה must mean " he had it written "—" it " referring to the body of the document. (This sense of כתב is general in the Elephantine Papyri. The term in the scribal formulae for the act of writing is כתב על פם or כתב כפם " as told by . . . .") The suffix would then be feminine. As Hebrew and Aramaic have the identical form of the feminine we would not know which language it was.

[15] The root *bsr* and the word פרנס might, however, at that time already have been part and parcel of Hebrew.

11 שאול בן אלעזר עד
12 יהוסף בן יהוסף עד
13 יעקוב בן יהוסף מעיד

Tentative Translation.

1 Thus/Here (say) the *parnāsīn* of Beth Mashku: thus/here (says) Jeshua and thus/here Eleazar
2 To Jeshua ben Galgola, commander of the garrison, Greeting. Made known
3 to you may it be that the cow which Jehoseph ben Ariston requisitioned from Jacob
4 ben Judah, who is a resident of Beth Mashku, that it was his property " from daughters "(?).
5 Further: If the heathens were not (so) near to us, I myself would have come up
6 and would have discussed compensation in the matter, so that you should not say, out of disrespect
7 have I not come up to you. Peace to you and to the whole House of Israel.
8 Jeshua ben Eleazar had it written
9 Eleazar ben Jehoseph had it written
10 Jacob ben Judah, for himself
11 Saul ben Eleazar, witness
12 Jehoseph ben Jehoseph, witness
13 Jacob ben Jehoseph, confirming the (identity of the) witnesses

THE DAMASCUS OF QUMRAN GEOGRAPHY

By Robert North, S.J.

Among the numerous investigators of the Ṣadoqite sect both before and after Qumran, few have ever attached special significance, much less doubt, to its geographical situation " in Damascus." Baumgartner indeed points out " If the relation of the [Qumran] sect to Damascus was considered so important that it gave the community its name, there must be some reason for this."[1] Conversely, the name Judean/Damascus Covenanters has been proposed in order to *separate* the Damascus from the Qumran sect, geographically as well as chronologically[2]. The choice of Damascus is by Mowinckel related to the words of Zechariah 9, 1, " The burden of the word of YHWH in the land of Hadrak, and Damascus *its repose*."[3] Kahle, noting with others that the migration was prompted by Amos 5, 26 as cited in *Ẓad* 7, 15 [7, 17], adds that the community apparently soon removed from their tents at Damascus and are found living in cities[4]. Damascus as the seat of Seleucid Demetrius III, ally of the enemies of Jannæus, accounts for a proposed identification of this latter as the Wicked Priest[5]. Another theory

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[1] Walther Baumgartner, " Die Bedeutung der Höhlenfunde aus Palästina für die Theologie " *Schweizerische Theologische Umschau* 24 (1954) 58; the author claims that it is now impossible to conceive the Damascus flight as posterior to the installation at Qumran.

[2] William H. Brownlee, " A Comparison of the Covenanters of the Dead Sea Scrolls with Pre-Christian Jewish Sects " *Biblical Archæologist* 13 (1950) 51, referring to Millar Burrows.

[3] Sigmund Mowinckel, " Håndskriftfunnet ved Dødehavet og dets betydning for teksthistorien " *Norsk Teologisk Tidsskrift* 52 (1951) 154. Hadrak is the capital of an Aramæan kingdom, later an Assyrian province, between Ḥama and Aleppo.

[4] Paul Kahle, " Die Gemeinde des Neuen Bundes und die hebräischen Handschriften aus der Höhle " *Theologische Literaturzeitung* 77 (1952) 409. In " Qumrân and its Archeology," *Catholic Biblical Quarterly* 16 (1954) 428, we have justified our use of the terms *Serek* (Manual of Discipline, DSD), *Pešer* (Habaquq commentary, DSH), Yaḥad (the scroll-users); and of the spelling *Ẓad(okite)* to refer exclusively to the fragments or sectaries so designated in the original publication by S. Schechter, *Documents of Jewish Sectaries:* I. *Fragments of a Ẓadokite Work* (Cambridge 1910); in square brackets is given also the numeration of R. H. Charles, [*Apocrypha and*] *Pseudepigrapha of the Old Testament in English* (Oxford 1913) 2, 785–834.

[5] H. M. Segal, " The Habakkuk ' Commentary ' and the Damascus Fragments " *Journal of Biblical Literature* 70 (1951) 139. The pre-mishnaic " Fasting Scroll " echoed as early as Judith, first published with the Seder 'Olam in Mantua in 1513 by S. Laṭîf, carries on p. 24 under 17 Adar a reference to a flight to Chalcis and Bet Zabdai, of which the latter is unknown and the former is Lebanon; to refer these to the flight from Jannæus [Josephus *JW* 1 (98); *Ant* 13 (383)] is " difficult " according to Hans Lichtenstein, " Die Fastenrolle : eine Untersuchung zur jüdisch-hellenistischen Geschichte " *Hebrew Union College Annual* 8 (1931) 293.

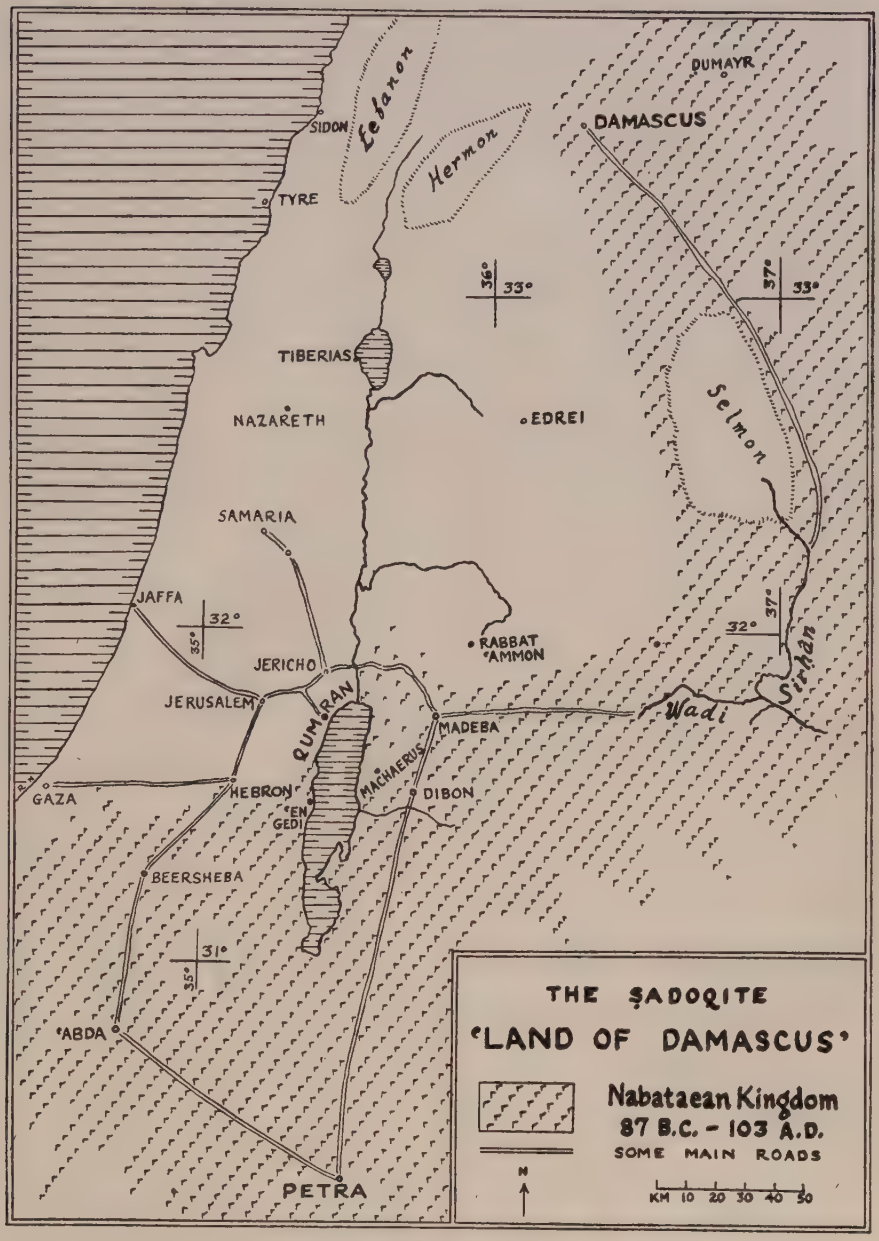

Lebanon
Hermon
SIDON
TYRE
DUMAYR
DAMASCUS
TIBERIAS
NAZARETH
EDREI
Selmon
SAMARIA
JAFFA
JERICHO
JERUSALEM
QUMRAN
RABBAT 'AMMON
MADEBA
Wadi Sirhan
GAZA
HEBRON
'EN GEDI
MACHAERUS
DIBON
BEERSHEBA
'ABDA
PETRA
36°
33°
37°
33°
32°
35°
32°
37°
31°
35°
THE ṢADOQITE
'LAND OF DAMASCUS'
Nabataean Kingdom
87 B.C. – 103 A.D.
SOME MAIN ROADS
N
KM 10 20 30 40 50

Fig. 1.

that would find in the Yaḥad supporters of Onias III is embarrassed by the fact that these left him in the lurch by their flight "into the desert" as 1 Mcb 2, 29 formulates it, but which is perforce taken to mean all the way to Damascus, unless indeed a *part* of them be alleged to have stayed back in Judæa[6]. The founding-fathers of the Sanhedrin, both named Yosé, issued a decree that the land of the Gentiles was unclean; and this is held to be aimed at the nonconformist Ṣadoqites who had resorted thither[7]. Apparently no one has yet vindicated this topography by the statement of *Pešer* 12, 3 that Lebanon is the council of the Yaḥad; though to ancient geography Syria extended to the coast and both Lebanons were its mountain, the allusion is generally granted to be symbolic.

A fascinating corollary of the Damascus theme was initiated by Preisker with his contention that Paul went there because it was a natural resort of heretics, where a link was to be suspected between the two Pharisee-baiting groups of Ṣadoqites and Christians[8]. This theme was further pursued by Schilling, and of course provides material for Teicher's identification of Paul as the Wicked Priest[9].

But these opinions are mere bubbles on a placid sea of acquiescence in the general view that the sectary base was temporarily and irrelevantly Damascus. A radically contrary view had already been embodied in substantially the form of the present paper, when we became aware that a similar point of departure had already been advanced by Rabinowitz[10]. It has meanwhile been favoured by de Vaux, Rabin, and Coppens, and is indeed convincing: namely that the "Damascus" of the Zadokite Document, like so many other proper names of the Scrolls literature, is an allegorical one. We will first present our own substantiation for this proposition, since it is altogether independent of that advanced by Rabinowitz; and thereupon we will draw a quite different conclusion from his, placing the terminus of the flight not long before and far away in Babylon, but in a portion of the

[6] A. Michel, *Le Maître de Justice* (Avignon 1954) 317; p. 112 on the other hand seems to say that the New Alliance was *founded* in Damascus.

[7] R. Travers Herford, *The Pharisees* (London 1924) 26.

[8] Herbert Preisker, "Jerusalem und Damaskus—ein Beitrag zum Verständnis des Urchristentums" *Theologische Blätter* 8 (1929) 49–54. This involves rejection of the thesis that Paul reverts to Damascus as the strong orthodox Jewish centre of his earlier residence: Ernst Barnikol, *Die vorchristliche und frühchristliche Zeit des Paulus* (Kiel 1929) 90.

[9] F. A. Schilling, "Why Did Paul Go to Damascus?" *Anglican Theological Review* 16 (1934) 199-205; J. L. Teicher, "The Habakkuk Scroll" *Journal of Jewish Studies* 5 (1954) 55. A presumable sympathy between Christians and Zadokites as Jewish outlaws is suggested by the Damascus setting but independent of it, according to Sherman E. Johnson, "The Dead Sea Manual of Discipline and the Jerusalem Church of Acts" *Zeitschrift für die alttestamentliche Wissenschaft* 66 (1954) 117.

[10] First hinted in J. Rabinowitz, "Sequence and Date of the Extra-Biblical Dead Sea Scrolls' Texts and 'Damascus' Fragments" *Vetus Testamentum* 3 (1953) 176, and in the report of a meeting, *Journal of Biblical Literature* 72 (1953) ix; and by D. Barthélemy explicitly related to Qumran, *Revue Biblique* 60 (1953) 422.

contemporary Nabatæan Kingdom which factors of historical geography will justify calling " *the Land of* Damascus," to wit, the region on both sides of the Jordan mouth in the immediate neighbourhood of Qumran, as Barthélemy had proposed.

Archæological Data on the Sect's Abode

Let us begin with the concrete facts of archæology, which, though they have proved at first fickle and even now frail for the chronology of the scrolls, are more secure regarding the diffusion of the scroll-users. The presence of identical pottery in the stone buildings of Ḫirbaᵗ Qumran and in 24 of the 37 fruitful caves, may be taken as a genuine proof that the scrolls served the members of a society dwelling in the neighbouring caves but having their centre in the Ḫirba, which consequently may rightly be called the monastery. This contention is corroborated by the fact that the thousand-odd burials of the Ḫirba are out of proportion to the number of living members who could be lodged at that site[11]. Moreover there were found numerous *coins* in the convent but none in the inhabited caves, a fact which seems to point to an exclusively centralized administration[12]. It may be noted incidentally that the area of the Ḫirba and the caves, and for miles around, is supremely unpropitious for agriculture or self-support of any kind; on the other hand, there are traces of grandiose water-conservation constructions which as in the Nabatæan Negeb may have rendered possible cultivation on a scale for which the clue has been lost today[13].

Apart from Qumran, archæology conveys no positive information relative to the diffusion of our sect. In a purely negative way, the fact that no similar cache has hitherto been found in well-scoured Palestine might suggest a preliminary hypothesis that the sect existed *only here*. The " thousands, hundreds, fifties, and tens " of *Serek* 2, 21 would seem in its context to include the sect's (whole?) membership of several thousand living within marshalling distance of one place, rather than " evidently *various* residences or camps."[14] We may admit with Molin that the " marshalling by hundreds " is a military feature linking the *Serek* with the *Milḥama*[15]. The " dwelling in tents," which is neither confirmed nor disproved by the honeycomb of habitable

[11] F.-M. Lemoine, " Les manuscrits du désert de Judée " *Lumière et Vie* 8 (1953) 113. However, Baumgartner in *Schweizerische Theologische Umschau* 24 (1954) 56 claims that these burials represent the successive inhabitants of more than a century, and hence the total number of the Qumran sectaries was only about 200.

[12] R. de Vaux, " Exploration de la région de Qumrân: rapport préliminaire " *Revue Biblique* 60 (1953) 561.

[13] This problem was treated in several papers of the Israel IX Archæological Congress held at Beersheba in September 1953, *Biblica* 35 (1954) 132; see also N. Glueck in *Jerusalem Post*, September 4, 1953.

[14] F. Nötscher, "Jüdische Mönchsgemeinde und Ursprung des Christentums nach den jüngst am Toten Meer aufgefundenen hebräischen Handschriften " *Bibel und Kirche* 1 (1952) 25. In *Ẓad* 12, 19 [15, 1] occurs the title, " *Serek* of the *mošab* (dwelling) of the *cities* of Israel "; but before a single rule is actually laid down, in 12, 22 Schechter supplies a missing word to read " This is the *serek* of the *mošab* of the *camps* "; and in fact the context implies marshalling, and the camp is mentioned in 13, 4. 7 [15, 6; 16, 1].

[15] Georg Molin, *Die Söhne des Lichtes: Zeit und Stellung der Handschriften vom Toten Meer* (Vienna 1954) 105. Cf. Ex. 18, 21.

caves surrounding Qumran, is regarded by Black as essential to the eschatological character of the sect[16]. The Covenanters' mustering on the steppe had already been featured by Wiebe as a significant parallel to the Mosaic *exodus*[17]. The *term* of such an exodus is not indicated; the allegory indeed suggests crossing the Jordan; we will see that both sides of the Jordan served as a refuge for intertestamental sects. The *Milḥama* speaks of "Judæans and Benjamites who withdrew from the desert of the peoples in order to camp in the *desert of Jerusalem.*"[18] Conversely, those few who argue positively from the location of the sect in Damascus, base themselves explicitly upon its urban character, and do not seem to envisage an isolated camp outside the town[19]. A final word about this mustering: the fact that the inspector must be "competent in . . . all sorts of languages according to their (various) families," suggests to Dupont-Sommer a recruitment speaking severally Greek, Hebrew, Palestine Aramaic, and Syrian Aramaic[20]. But Scripture professors will not find rash the suggestion that various languages had to be learned rather in view of the exegetic preoccupations of the sect (*Serek* 6, 7).

Despite its relevance to our theme, we must leave for another occasion the vexed problem of how far the Essenes are identical with the Qumranites and how far they shunned cities[21]. But we cannot fail to mention that Pliny

[16] Matthew Black, "Servant of the Lord and Son of Man" *Scottish Journal of Theology* 6 (1953) 5.

[17] Joachim Jeremias, "Moses" in G. Kittel's *Theologisches Wörterbuch zum Neuen Testament* (Stuttgart 1942) 4, 865, alluding to a work by W. Wiebe, *Die Wüstenzeit als Typus der messianischen Heilszeit* (Göttingen dissertation in course of publication).

[18] Eleazar L. Sukenik, *'Oṣar ha-mᵉgillôt ha-gᵉnûzôt* (Jerusalem 1954), Plate 16, line 2. This work was posthumously edited and further studied by Sukenik's son, Yigael Yadin, who kindly communicated to me his conclusion that this passage best fits a transfer from some *Gentile* place of exile (such as Damascus! [or Babylon!] *to* Qumran, but that the difficulty is not peremptory nor incapable of a looser interpretation.—See further G. Molin, "Hat die Sekte von Khirbet Qumrân Beziehungen zu Ägypten?" *Theologische Literaturzeitung* 78 (1953) 654.

[19] Josephus *JW* 2 (559) 20, 2; 7 (368) 8, 7 notes that there was inside Damascus a Jewish colony so large that ten thousand were put to death during the Jewish War.

[20] *Zad* 14, 9–10 [17, 6]; André Dupont-Sommer, *The Dead Sea Scrolls* [= *Aperçus préliminaires sur les manuscrits de la Mer Morte* (Paris 1950) translated by E. Margaret Rowley] (Oxford 1952) 62. The phrase rendered by M.-J. Lagrange, ["La secte juive de la Nouvelle Alliance au pays de Damas" *Revue Biblique* 21 (1912) 238] "familiar-with (*ba'al*) [secrets and language]" appears in the text as "the inspector must be *married* (*ba'ûl*, but ungrammatically)"; compare 1 Ti 3, 2, the bishop must be "husband of one wife"; some read in *Zad* 14, 10 "anointed or bathed" *bâlûl*.

[21] Philo, *Quod omnis probus liber* 12, 75 [ed. L. Cohn (Berlin 1915) 6, 22], says that the sectaries dwelt only in villages, eschewing cities as unclean. If village is taken in the quite feasible sense of a "restricted settlement," it would apply to Qumran; less obviously the plural might refer to its spelæan dependencies. But as cited in Eusebius, *Præparatio evangelica* 8, 11 [Migne, *Patrologia græca* 21, 641], Philo has the membership include also cities; and Josephus *JW* 5 (145) 4, 2 contends that "every city of Palestine" has a house where [at least, *metoikoûsin*] *journeying* Essenes may lodge without contamination. At Jerusalem there was an Essene hospice which gave its name to one of the city gates, even though in all likelihood there was no noticeable community dwelling there: L. Marchal, "Esséniens" in *Dictionnaire de la Bible Supplément* 2 (Paris 1934) 1113; Josephus *JW* 5 (145) 4, 2. Lucien Cerfaux, "Le baptême des Esséniens" *Recherches de Science Religieuse* 19 (1929) 249 solves the apparent contradiction "in towns . . . avoiding towns" by assuming that *after* the Jewish War the votaries retired to the 'En Gedi desert: which scarcely fits the Qumran excavation finds.

locates the Essenes solely above 'En Gedi on the shores of the Dead Sea, therefore around Qumran as Dupont-Sommer rightly saw. According to all experts, Philo's statement that they dwelt " in Palestine *and Syria* " is a textual error for " in Palestinian Syria," the official name for Palestine[22]. We have already noted the not insurmountable obstacles afforded by Qumran to a big farming-community such as Josephus maintains the Essenes to have been[23].

Context of the Damascus Mentions

The prevailing assumption that the Zadokite sect, and therefore also some stage of the Qumran sect, dwelt in or beside the city of Damascus, rests on nine references. Two (*Zad* 7, 6 = 19, 2 [both 9, 1]) speak only of living in camps, as we have seen. The other seven mention Damascus. In five the reference is not linked with any geographical detail. The most plausible is *Zad* 6, 5 [8, 6]: " the returned (*šâbey*, perhaps ' penitents '; or *šᵉbî*, ' the captivity ') of Israel, going out from the land of Juda, <and> they sojourn in the land of Damascus." On the same leaf (6,19 [8,15]) reference is made to " the comers-in of the new alliance in the land of Damascus." Again, " those who entered into the new alliance in the land of Damascus " is read in *Zad* 8, 21 (*ś* of *Dmśq* illegible[24]) and 19, 34 [both 9, 28]; and 20, 12 [9, 37] says apparently that the same " *they* despised the faithful alliance which *they* had established in the land of Damascus." It will be noted that these passages imply not a transfer of some existing league to a new abode, but the entry of the votary into the sect in *the land*, not the city, of Damascus; and in fact the origin of the sect there: factors hardly compatible with the hypothesis of a Qumran sect migrating to Damascus.

The sixth and seventh references to Damascus lend positive support to a symbolic interpretation of the name. *Zad* 7, 13 [A9, 4; Charles rightly notes the unusual disparity here from the B recension, Schechter 19, 7] refers to a future punishment of the enemies of the sect as a fulfilment (by accommodation obviously) of the prophecy of Isaiah 7, 17; and adds " those who were steadfast (14) took refuge in a country of the north: [5] as he said [Amos 5, 26–7], ' I will transport SKWT [= ? the tents of] your king (15) and KYWN [= ? the establishment of] your images *from the tents of* [M'HLY;

[22] Philo, *Quod omnis* 12, 75; Emil Schürer, *Geschichte des jüdischen Volkes im Zeitalter Jesu Christi*[4] (Leipzig 1907) 2, 657[2].

[23] Josephus *Ant* 18 (19) 1, 5; but Philo, *Quod omnis* 12, 76, maintains half were artisans. The brethren *could* have trudged daily as far as Fašḫa or even luxuriantly-watered Jericho (2½ hours). In torrid August I saw Jericho women walk three miles to the Jordan and immediately return with a bundle of firewood to be sold for a shilling; many did this at least once every day. Kaufmann Kohler, " The Essenes and the Apocalyptic Literature " *Jewish Quarterly Review* 11 (1920) 161, following the fifth-century Sinai monk Nilus, links the Essenes to the Rechabites about Jericho.

[24] In facsimile edition of Solomon Zeitlin, *The Zadokite Fragments*, Jewish Quarterly Review Monograph Series I (Philadelphia 1952).—J. L. Teicher, " The Damascus Fragments and the Origin of the Jewish Christian Sect " *JJS* 2 (1951) 130 holds " land of Damascus " a " deliberately vague but not entirely inaccurate description " of the Syrian area of Pella, where the New Covenant was entered into.

Amos has *to beyond, mehâl'âh*] Damascus'."[25] We may overlook the incomprehensible twist "away from <the tents of> Damascus," where as Charles says the sense demands "to beyond" as in Amos. Even so, contrary to the sectarian writer's implication, Damascus is not mentioned by Amos as a place of refuge for the faithful, but as a place of punishment for the wicked; on this score Zech 9, 1 is the more suitable reference. In the Amos citation, there does not occur the Biblical word "star"; it is included, however, and referred to a different Biblical source (Nm 24, 17) in the grossly allegorical commentary which follows: the *tent* (now *sukkat*, *i.e.* SWKT instead of SKWT) of the king (David!) is the books of the law; but the king is the community (!?; the word is blotted but fairly inescapable in Zeitlin's facsimile); the KYWN of images[26] is the unworthy prophecies; and (*Zad* 7, 18 [9, 8]) "the star is the Midrashist of the Tora, who came to Damascus, as is written [Nm 24, 17], 'a star has trodden out of Jacob' [mention of Moab but not Damascus being made in the Biblical context]."

Transferred *vs.* Symbolical Usage

In view of the ingenuity that has been expended on recognizing the symbolisms of other proper names in the sectarian literature, it is remarkable that the justification for a symbolic sense of "the land of Damascus" had not been noticed before Rabinowitz. Especially relevant is the case of the Kitti'im of the *Pešer*. These are introduced as a "clarification" of the Biblical word *Kaśdim* of Babylonia, an astounding confirmation of Duhm's clairvoyant emendation of the Masoretic Hab 1, 6 *kaśdim* to *kittim*[27]. Whoever the *kitti'im* may be, whether Cypriotes, Greeks, or Romans, they represent at successive epochs the diametrically opposite extreme of the Biblical world from Babylonia. In face of this undisciplined allegorizing tendency, and in view of the utterly inconclusive use of the term "(land of) Damascus" in its seven occurrences, there can be no doubt as to the reasonableness of Rabinowitz's claim that Damascus is here employed in a symbolical, allegorical, or let us say more noncommittally a *transferred* sense.

Our agreement extends further to recognizing that the "New Covenant" *Zad* 6, 19 [8, 15], linked with "Damascus," as well as the "New Covenant"

[25] The Masoretic text of Amos 5, 23 may be rendered "And you (pl.) will lift up *Sikkût* [of ? ; G the tent of] your king and *Kiyyûn* [? Saturn, Accadian *keywanu*; or ? Piel noun of *kwn* "be firm"] (of) your images, the star of your god(s) [G the tent of Moloch and the star of your god Rhaiphan, the *models*] which you made for yourselves (27) and I will exile you beyond Damascus."

[26] "And the KYWN of the images" is written twice, the first time with KYNWY, a Qal verbal noun which seems to confirm the acceptance here of KYWN as a Piel verbal noun of similar sense, *kiyyûn* = "establishment," though the verb is not found in Piel in the Bible. F. F. Hvidberg, *Menigheden af den nye Pagt i Damascus* (Copenhagen 1928) holds that an *omission* after "King" contained the interpretation of "King" and "images."

[27] Bernhard Duhm, *Das Buch Habakuk* (Tübingen 1906) 21: Kithäer *i.e.* Macedonians coming from west (Gomer = Cappadocia) to east. G. R. Driver, *The Hebrew Scrolls* (London 1951) 20[2] holds that *Pešer* vindicates Houbigant's emendation of *hêrâ'êl* 2, 16, but not necessarily Duhm's *kittim*.

of *Serek* 2, 19 and of reconstructed *Pešer* 2, 3, is that foretold by Jeremiah 31, 31, and primarily established with the Exile[28]. But from these two facts it does not necessarily follow that " ' the land of " Damascus ",' then, is merely the author's way of designating the place to which the saved remnant of Israel, the Captivity, were exiled "; nor that *bâ-âreṣ Dammeśeq* constitutes merely an adjectival phrase, " the Damascus-land (*i.e.* exilic) New Covenant."[29] These conclusions are indeed cogently rooted in the author's conviction that the 390 years of *Zad* 1, 5–7 *precede* and *culminate in* the Babylonian exile rather than follow it[30].

But we still feel that the tenor of the Damascus references is such as to imply a real place in the sectaries' experience, the terminus of an actual flight; and furthermore that the transferred sense of " the land of Damascus " is not purely symbolical or allegorical, but is a plausible extension of actually existing geographic designations and relationships. There are two points to be proved: first the Nabatæan Kingdom at that time included Damascus, and may therefore have been designated as the Land of its most important metropolis; and secondly that Qumran formed part of a close-knit geographical entity which was at least partially subject to the Nabatæan Kingdom.

Nabatæan Vicissitudes in Damascus

The proud antiquity of the city of Damascus and its headship over the Aramæan realm are too well-known to concern us here[31]. Less known is the fact that in the year 87 B.C. this metropolis fell under the dominion of the Nabatæans[32]. This people was previously practically unknown in history, and it is insecure whether they are related to the Biblical *Nᵉbayot*[33]. Though

[28] Karl Elliger, *Studien zum Habakuk-Kommentar vom Toten Meer*, Beiträge zur historischen Theologie 15 (Tübingen 1953) 284.

[29] Isaac Rabinowitz, " A Reconsideration of ' Damascus ' and ' 390 Years ' in the ' Damascus ' (' Zadokite ') Fragments " *Journal of Biblical Literature* 73 (1954) 11–35; 17^{20}; 23^{66}.—16^{15}: " the ' entering ' or ' passing ' into the ' new covenant ' (first made in the Assyro-Babylonian Exile in fulfilment of prophecy) was an annually renewed ceremony," as in Neh 9–10.

[30] Rabinowitz, *JBL* 73 (1954) 34; there were exactly 393 years from the schism of the Northern Kingdom to an exilic term. If the sect was founded in exile, the Doctor of Justice may have been Nehemiah, as is noted with deserved consideration by J. Coppens, " Où en est le problème des manuscrits de Qumrân " *La Nouvelle Clio* 6 (1954) 254.—Lagrange in *Revue Biblique* 21 (1912) 330 had cited the Arab historian Makrizi (as in de Sacy, *Chrestomathie arabe*[2] 1,294) to prove that 300 years after the Second Temple a part of the house of David left Jerusalem and went to dwell in countries of the East. But F. Hvidberg, " Die 390 Jahre der sogen. Damaskusschrift," *Zeitschrift für die alttestamentliche Wissenschaft* 51 = 10 (1933) 309-311 calculates the 390 years as originally the " time of anger " from Šem to Terah!

[31] Summary in Preisker, *Theologische Blätter* 8 (1929) 49. The *name* of Damascus probably means not " donkey-boy " as implied in MŚQ of Gn 15, 2, but " wine-pourer " as Gn 40, 5 in a general sense of fertility: Cyrus H. Gordon, " Damascus in Assyrian Sources " *Israel Exploration Journal* 2 (1952) 174.

[32] F.-M. Abel, *Histoire de la Palestine* (Paris 1952) 1, 252.

[33] Masculine singular, though the final *t* is not *ṭ* as in Nabaṭæan; Gn 25, 13; 28, 9; 36, 3; 1 Chr 1, 29; Is 60, 7. The identity is presumed by Josephus *Ant* 1 (221) 12, 4 and followed by Jerome, *Quæstiones in Genesim* 25, 13, ML 23, 1027.

of Aramaic-speaking background, they are considered to be of Arabic blood, and are called by Josephus simply Arabs[34]. Their rise to power was due to the control they could exercise over trade-caravan routes from their unique stronghold of Petra, where their monuments still survive in matchless beauty[35].

A Nabatæan king, either Obodas I or Aretas III Philhellenos, at the battle of Qana or Qanata, killed King Antiochus XII of Syria, and at Adida defeated the powerful Jannæus of Judæa. " These two victories assured the Nabatæans of the possession of the road from Petra to Damascus via Madaba-Ammon-Boṣra, and even a temporary sovereignty over Celesyria."[36] The populace of Damascus itself invited Aretas in to liberate them from the hated Ptolemaios Mennaios[37]. As is well known, the Nabatæans were nomads, whose wealth and power derived from roads and not from cities; hence it need not surprise us that Aretas, having secured the control of Damascus as terminus of a caravan-route, allowed it considerable autonomy; beside the coins issued in his name, others are found in the name of the metropolis itself 70 B.C., while even Ptolemaios Mennaios seems to have been sufficiently tolerated in Damascus for Aristobulus to take refuge with him there [Josephus, *Ant* 13 (418) 16, 3].

In 66 B.C., Pompey occupied Damascus, but as usual the Roman cccupation throve on a machinery of collaboration with the existing rulers; and such leading Roman historians as Marquardt and Mommsen were convinced that Rome allowed the Nabatæan kings their easy-going nominal rule of Damascus until 103 A.D[38]. It is remarkable that though Pliny 5, 74 and Ptolemaios 5, 15, 22 name Damascus (of the Roman province of Syria)

[34] Schürer, *Geschichte* (Leipzig 1901) 1^3, 729; T. Nöldeke, " Zu den Nabatäischen Inschriften " *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 17 (1863) 706; 25 (1871) 127 admits as Kultursprache their use of Aramaic, maintained by E. Quatremère, "Mémoire sur les Nabatéens" *Journal Asiatique* 2/15 (1835) 211.

[35] Biblical Petra is called (A)reqem, Jos 13, 21, Josephus *Ant* 4 (161) 17, 1; H. Graetz, " Die Anfänge der Nabatäerherrschaft " *Monatsschrift für Geschichte und Wissenschaft des Judentums* 24 (1875) 50.

[36] J. Cantineau, *Le nabatéen* (Paris 1930) 1, 3; Josephus *Ant* 13 (391) 15, 1; *JW* 1 (102) 4, 7.—M. Delcor, *Essai sur le Midrash d'Habacuc*, Lectio Divina 7 (Paris 1951) 61 relates to the Nabatæan campaign of Antiochus XII the *mîšor* (between Arnon and Hešbon, Jos 13, 9) of *Pešer* 3, 1; his detour against Jannæus being hinted in *Pešer* 4, 4.

[37] *Ant* 13 (392) 15, 2. I. Benzinger, " Damaskos" Pauly *Real-Encyclopädie* (Stuttgart 1901) 4, 2045.—Aretas [I or II (?)] is described on a coin of Damascus in Joseph Eckhel, *Doctrina numorum veterum* (Vienna 1794) 1/3, 330.

[38] This judgment rests chiefly on 2 Cor 11, 32, and is rejected by Schürer on the basis of five arguments of Rohden, *De Palæstina et Arabia provinciis Romanis* (1885) 4–9. We are quite ready to concede that the overlordship of both Petra and Rome in remote Damascus was so desultory as to seem non-existent provided the roads and taxes functioned smoothly; in this sense there is merit in the article of Georg Wandel, " Zur Chronologie des Lebens Pauli: I. Paulus in Damaskus " *Zeitschrift für kirchliche Wissenschaft und kirchliches Leben* 8 (1887) 441. But H. Vincent, " Les Nabatéens," *Revue Biblique* 7 (1898) 572 approves rather the view of A. von Gutschmid, " Verzeichniss der Nabatäischen Könige," in Julius Euting's *Nabatäische Inschriften aus Arabien* (Berlin 1885) 85, holding that Damascus was granted *anew* to Aretas IV under Caligula.

as a city of the Decapolis, Josephus not only never names it such, but expressly calls Scythopolis the largest of the Decapolis cities; but even if Damascus were one of that loose agglomeration, that would not argue against a Nabatæan commercial protectorate. Herod received from Sextus Cæsar *in* Damascus the dominion of Celesyria but *without* Damascus, where however he proceeded to build a theatre and gymnasium [*JW* 1 (422) 21, 11]. Cleopatra, after a sojourn in her then "fief" of Damascus, induced Antony to entrust to Herod the war against the Nabatæans, so that if he lost she would become mistress of Judæa, *JW* 1 (365) 19, 1; which implies that her rule in Damascus involved coexisting and indeed complotting with the Nabatæans.

The enthronement of Aretas IV in Petra without approval of the Romans shows that the proud Arabs, while accepting a nominal occidental protectorate, did not always move only as "Big Brother" advised. In 2 Cor 11, 32 we have an unmistakable reference to Nabatæan rule in Damascus under Aretas IV, which postulates either an unproved shifting of authority back and forth between little Nabatæa and powerful Rome, or more plausibly a continuing domination of the two powers within their respective agreed spheres. Kahrstedt's contention that the *ethnarch* of Aretas in Damascus was not a viceroy but a sort of consul looking out for the big Nabatæan community there, is not adverse to our position, because his "consular" seat could still give its name to the outlying areas of Northern Nabatæa[39]. The Roman tolerance of Nabatæan rulers in Damascus before 103 A.D. is emphasized by the decisiveness of their expulsion after that date; and Tertullian in his day is still clearly conscious of the fact that Damascus was previously a part of Nabatæan Arabia[40].

The Testimony of Nabatæan Remains

The geographical situation of the northern Nabatæan base has long been hinted by a stream of inscriptions from the Ḥauran[41]. More recently it was

[39] Ulrich Kahrstedt, *Syrische Territorien in hellenistischer Zeit*, Abhandlungen Göttingen phil.-hist. 19/2 (Berlin 1926) 56n. On this see the reserves of A. Kammerer, *Pétra et la Nabatène* (Paris 1929) 1,253.

[40] Tertullian, *Adversus Marcionem* 3, 13, *ML* 2, 367, on "accipiet virtutem Damasci": Damascus Arabiæ retro deputabatur antequam transcripta esset in Syrophoenicen.—David Flusser, "The Apocryphal Book of *Ascensio Isaiæ* and the Dead Sea Sect" *Israel Exploration Journal* 3 (1953) 43 holds the "Tyre and Sidon" (to which the followers of Isaiah are in 5, 13 told to flee) as *Damascus* veiled in a way suited to the fiction of composition five centuries earlier, Damascus and Tyre being incidentally under the one Hellenistic-Roman government of Syria; p. 45, Isaiah's going to Bethlehem [§2, 9; Charles p. 160] and thence with disciples to a mountain in a desert place for two years refers not to the fictional plot but to actual experiences of the (Qumran-Damascus) sect: a highly plausible reconstruction, though (not insuperably) adverse to our position here.

[41] Most are funerary, and none seems to stem from Damascus itself; but one from nearby Ḍumayr dates from 75 A.D.: Eduard Sachau, "Eine Nabatäische Inschrift aus Ḍmêr" *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 38 (1884) 540; Cantineau, *Le nabatéen* 2, 19. C. Clermont-Ganneau, "Le cippe nabatéen de D'meir" *Recueil d'archéologie orientale* (Paris 1888) 1, 74: the extent of the Nabatæan kingdom was rather narrow, reaching no farther west than the road from Damascus to Mecca.

convincingly reconstructed in detail by the Transjordan explorations of Nelson Glueck. He shows that Nabatæa, like modern Pakistan, consisted of two sundered areas, the hereditary stronghold of Petra, and the region about Damascus. Unlike Pakistan, the two areas were joined by a corridor or caravan-road: not however the direct facile route which earlier and later linked Petra and Amman with Damascus, but a wide detour toward Wadi Sirḥân on the edge of the desert, with the scope of leaving in peace the autonomous inhabitants of Gil'ad or Perœa, as far south as the Dead Sea[42]. The castle of 'Araq al-Amir near this vague boundary was built by the Ammonite Tobiads as a refuge from Judæan jurisdiction[43].

Meanwhile it is to be noted that the Nabatæan bailiwick about Petra is distinguished only dynastically from the realm of Edom or Idumæa, regarded as descendants of Esau and half-brothers of the Jews[44]. The Edomites, including the father of Herod the Great (whose mother was a Nabatæan princess), were well intrenched also in western Palestine around Beersheba, and Glueck's recentest researches have shown considerable Nabatæan diffusion in the area of 'Abda[45]. Thus the Nabatæan rule, of which Damascus would be popularly considered the metropolis, encompassed three-fourths of the Dead Sea. Only the area from 'En Gedi northward to the Jordan mouth, that utter desert, south-east of the Jerusalem-Jericho-Amman road, remains in question.

Now as is well known, a narrow inland body of water does not make a suitable boundary between nations. The lakes of Galilee and Hula, contrary

[42] Nelson Glueck, " Explorations in Eastern Palestine " *Annual of the American Schools of Oriental Research* 18 (1938) 139: there is no Nabatæan pottery north of Madeba; Perœa, Herod's domain, included Machærus, but " the line of demarcation between these boundaries may not be too rigidly drawn " p. 140; Wadi Sirḥân, p. 144, was the " lifeline " road to Syria [Abel, " L'expédition des Grecs à Pétra en 312 " *RB* 46 (1937) 376[1]]; it contained Nabatæan inscriptions, though no Nabatæan sherds, *AASOR* 25 (1949) 34.

[43] Bo Reicke, " Die Ta'āmire-Schriften und die Damaskus-Fragmente " *Studia Theologica* 2 (1948) 55–59: The Tobiad Joseph secured from the Ptolemies tax-farming privileges formerly held by the Jerusalem high-priesthood. Already father of the Tobiads called Sons of Lot in Ps 83, 9 (Finkelstein), because of their designs on the high-priesthood (Josephus *JW* 1, 1, 1), he was deceived by a ruse into begetting Hyrcanus of his own niece, and this is the specific case envisaged by *Zad* 5, 10 [7, 11]. This Hyrcanus Reicke at first held to be the Absalom of *Pešer*, and his high-priestly adversary or Tobiad-baiting *Nehemias* (13, 4) *redivivus* to be thus Onias. Hyrcanus built the castle of Baris (= 'Araq al-Amîr) in Perœa and fought the Arabs (= Nabatæans), Josephus *JW* 12 (229) 4, 11. See A. Büchler, *Die Tobiaden und die Oniaden* (Vienna 1899) 74, and H. Vincent's excursus on 'Araq al-Amîr in " La Palestine dans les papyrus ptolemaïques de Gerza " *Revue Biblique* 29 (1920) 189–200; B. Maisler, " The House of Tobiah," *Tarbiz* 12 (1941) 109–123.

[44] Abel, *Histoire* 1, 252: the Idumæans for a while helped Jannæus to oppose the Nabatæans in the Negeb, but when Aretas III occupied Damascus, he recovered the Nabatæan cities taken by Jannæus in the region of Madeba, and had harmonious relations with the line of Idumæan Antipater.

[45] R. North, " Explorationes archæologicæ Palæstinæ 1953 " *Biblica* 35 (1954) 141; J. Iliffe, " Nabatean Pottery from the Negeb," *Quarterly of the Department of Antiquities of Palestine* 3 (1934) 132–135.

to the impression maps may give, were formally included inside the Mandate Palestine boundary, though at certain points with only a few metres of shoreline. If the Dead Sea was not similarly regarded as a unit, that was perhaps because the same mandatory controlled both shores. Today, though Israel possesses only a relatively small segment, it is enough to bring Dead Sea traffic to a standstill. Hence we would suggest as not improbable that the " land of Damascus " or Nabatæan kingdom of Aretas IV included at least vaguely (as the boundaries to the east of Transjordan are vague even today) the brief north-western segment of the Dead Sea shoreline which has not yet been proved Nabatæan by the brilliantly painted eggshell-fine pottery which even in the tiniest sherds serves as trademark of that culture[46].

The Jordan Baptist Movement

To prove that Qumran formed part of a close-knit geographical unity which was at least partially subject to the Nabatæan kingdom, we may begin with the statement of Lagrange that both sides of the Jordan near its Dead Sea mouth swarmed with baptizing Judaistic sects[47]. The point has been taken up and developed beyond dispute by the studies of Reitzenstein and Thomas[48]. Among these sects, the Mandæans held heavenly beings with such Nabatæan names as Nbaṭ and Ḥauran[49]. A proof of the earnestness of the sectaries is seen in the fact that they so insisted on washings in a land so poor in water as Palestine[50]. This detail would on the one hand fit *a fortiori* the arid region of Qumran, but on the other would account for the nearness

[46] This ware which we encountered in excavating Dibon, may be picked up in quantities at Petra and 'Abda, while Glueck's researches acknowledge it as a prime criterion for establishing the areas of Nabatæan domination (despite its absence thus far in Wadi Sirḥân). Such ware never appeared in our digging at Jericho, and is not discoverable in E. Sellin, C. Watzinger, *Jericho Ergebnisse* (Leipzig 1913) or in J. Garstang, *Annals of Archæology and Anthropology* 19–23 (1932–6), yet is referred to by M. and J. Miller in *Harper's Bible Dictionary* (New York 1952) 572.—Nabatæan ware would not be expected at Qumran, whose convent and caves were occupied by a refugee-group whose cultural contacts were Judæan.

[47] M.-J. Lagrange, " La gnose mandéenne et la tradition évangélique " *Revue Biblique* 36 (1927) 325.

[48] R. Reitzenstein, *Die Vorgeschichte der christlichen Taufe* (Leipzig 1929) 238; Joseph Thomas, *Le mouvement baptiste en Palestine et Syrie* (Gembloux 1935) 273: " it must be recognized that the center of the movement is Transjordan " (the context indicates that the specifically *Jordan* river area is meant); a number of the votaries sought refuge in Syria after 70 A.D., p. 182; but the modifications introduced by Elḥasai about 100 A.D. became popular in Syria only after 200, p. 155; of the Zadokites Thomas says only (p. 2) " a sect *de minime importance*" !!

[49] Johannes Behm, *Die mandäische Religion und das Christentum* (Leipzig 1927) 13. E. Renan, *Histoire des origines du christianisme*[13] (Paris, after 1861) 5, 454 had considered these baptist cults to stem from the Euphrates valley, but the contrary view is generally held today. G. Molin, *Söhne des Lichtes* (Vienna 1954) 170, though admitting Lietzmann's rejection of the Mandæan writings to 500 A.D., retains a doctrinal nexus with the Qumran sect, as illustrated in the 1952 Vienna evangelical doctorate of K. Schædel, *Das Johannesevangelium und die Kinder des Lichtes.*

[50] Johannes Leipoldt, *Die urchristliche Taufe im Lichte der Religionsgeschichte* (Leipzig 1928) 1.

to a body of water usable with some inconvenience for ritual ablution. In common with the above-named specialists, and against Elliger, we attach no importance to the fact that some groupings are mentioned on the east and others on the west of the Jordan mouth, because the region forms a natural unity[51]. This assumption of cultural links between Qumran and the Transjordan Nabatæans is confirmed by a variety of details.

Most interesting is the discovery of six Nabatæan papyri at an undetermined site in the general region of Qumran-Murabba'ât[52]. One stems from about 50 A.D. and from a place called *maḥoz 'agaltayim*, mentioned also elsewhere in these papyri, plausibly identified with 'Ayn 'Aglayim of Ez 47, 10, and localized by Milik, together with obscure sites mentioned in the Murabba'ât fragments, as somewhere in the " mountain of Juda " understood as extending south and east to the Dead Sea[53]. 'Ayn 'Aglayim had actually been located at Fašḫa by Vilnay[54]. The term " mountain of Juda " for the Qumran caves is further supported by Ḥasdai ibn Šafruṭ's account of a manuscript-deposit in caves near Mount Śe'ir, which is rightly seen to mean either Edom in a general sense, or an extension of the Mount Śe'ir of Jos 15, 10 west of Jerusalem[55].

A second confirmation of our hypothesis may more cautiously be seen in the arguments for Arabic origin alleged recently by Weis for the Habaquq *Pešer*, as already by Büchler for the Damascus Document[56]. Such Arabisms, if they are admissible, need not be post-Islamic, but are compatible with the Nabatæan influence which was paramount in Transjordan up to Damascus from 33 to 63 A.D., and strong throughout the early Roman and Byzantine period[57].

A word remains to be said about the reference in *Zad* 7, 14 [9, 4] to refuge in the land of Damascus as a country of the north. The real Damascus

[51] K. Elliger, *Studien zum Habakuk-Kommentar* 244, against Teicher *JJS* 2 (1951) 93.

[52] J. Starcky, " Un contrat nabatéen sur papyrus," *Revue Biblique* 61 (1954) [161–]181: " in concluding, let us stress the historical bearing of the papyrus: Jews were living mingled with the Nabatæans of the southern boundary of Judæa before the First Revolt."

[53] J. T. Milik, " Un contrat juif de l'an 134 après J.-C." *Revue Biblique* 61 (1954) 185.

[54] Zev Vilnay, *Madrîk ereṣ Yiśrael*[3] (Jerusalem 1952, [1]1942) 433, so also in [2]1946 p. 429.

[55] Stanislav Segert, " Ein alter Bericht über den Fund hebräischer Handschriften in einer Höhle " *Archiv Orientální* 21 (1953) 267, claiming with G. Beer, " Idumäa " Pauly *Real-Encyclopädie* 9 (1916) 914 that the Edomite boundary ran from Hebron [northward] to the Dead Sea.

[56] P. R. Weis, " The Date of the Habakkuk Scroll " *Jewish Quarterly Review* 41 (1951) 127: the word *pešer* is equivalent to the familiar Arabic *ya'nî* or the more technical *ma'nâhu*; 132 *amar* used in the perfect is an Arabism. A. Büchler, " Schechter's 'Jewish Sectaries' " *JQR* 3 (1913) 469: *adam me'adam*, *Zad* 9, 1 [10, 1], represents the Arabic indefinite; *bet hištaḥût* 11, 22 [14, 2] = mosque [though Leszynsky, *Revue des Études Juives* 62 (1911) 195 took " house of crouching " in a less noble sense]; so G. Hölscher, " Zur Frage nach Alter und Herkunft der sogenannten Damaskusschrift " *Zeitschrift für die neutestamentliche Wissenschaft* 28 (1929) 33.

[57] Robert Eisler, " The Sadoqite Book of the New Covenant: its Date and Origin " *Gaster Studies: Occident and Orient* (London 1936) 113.

is indeed notably north of Jerusalem, whereas Qumran is actually due east, though now it is reached most conveniently by the favoured Jerusalem-Jericho highway running rather northward. It suffices, however, to refer to the usage of the prophets, who regard the Assyrians as a " menace from the north," though the map shows them eastward[58]. The usage is undeniable, whatever force we attach to the arguments that the name *sâpôn* originally designated not a direction so much as an abode of awful preternatural forces.

In conclusion we are happy to be able to note the decisive adherence of the excavator of Qumran to the proposition that " Damascus " may have a transferred sense in the Zadokite document[59]. In fact Père de Vaux's further statement, " One may well imagine that . . . it designates the Dead Sea desert at precisely the point where our installation is," might seem to have anticipated any contribution our paper might bring, except that for conjecture we have been able to substitute detailed documentation[60]. De Vaux says that *if* such a hypothesis be correct, no trace need be sought of an abandonment of the Qumran monastery, since no *flight* ever took place: though the excavation leaves open the possibility of a flight and abandonment between 68 and 31 B.C. We welcome his insistence that a symbolic use of the name Damascus is applicable to the historical situation contemporary with the Qumran sect, rather than in a remote past as Rabinowitz concluded; but we would not exclude the flight either, since in the passages we discussed it seems to account for the transfer of the sect from their Jewish-populace background *to* Qumran, their " land of Damascus " in the region of the Jordan mouth[61].

[58] Is 41, 25; Jer 1, 15; 4, 6. This usage is referred to the transit-routes by Aarre Lauha, *Zaphon: der Norden und die Nordvölker im Alten Testament* (Helsinki 1943) 16; p. 55 refers to his *Israelin Profeettain Historiankäsitys* (1938) 20. " The ' enemy from the north ' is a usual motif in the ritual texts in connection with the sham fight in Mesopotamia," A. Haldar, *Associations of the Cult Prophets among the Ancient Semites* (Uppsala 1945) 158. The Palestinians thought in terms of Egypt to the south, and Babylon by contrast to the north, Jer 23, 7. See now L. A. Whiston, " The Enemy from the North [Babylon] in Jer [2–6] " *Journal of Biblical Literature* 72 (1953) xxii.

[59] R. de Vaux, " Fouilles au Khirbet Qumrân: rapport préliminaire sur la deuxième campagne " *Revue Biblique* 61 (1954) 235. Rabinowitz in *JBL* 73 (1954) 12[4] quoted from a letter of de Vaux that " his colleague, Père Barthélemy, shares my view that the ' Damascus ' allusions are not to be taken literally "; Barthélemy's statement includes also the localization *at Qumran*, in a review of Rowley's *Zadokite Fragments and the Dead Sea Scrolls*, *RB* 60 (1953) 422.

[60] The mere fact that a Zadokite-Damascus fragment was found in a Qumran cave would not of itself prove this sense of " Damascus," as seems implied by Chaim Rabin, *The Zadokite Documents:* I. *The Admonition;* II. *The Laws* (Oxford 1954) 96, supplementary note to 6, 5 [8, 6]: " As [!] DSA was in the possession of the dwellers at Khirbet Qumrân, ' the land of Damascus ' may well be the neighbourhood of the Dead Sea—unless, indeed, we assume that the emigrants returned before the final catastrophe."

[61] G. Molin, *Die Söhne des Lichtes* (Vienna 1954) 239 holds that Qumran was the " refuge " *bêt g'lutô* of the Master of Justice of *Pešer* 11, 6, but that there was not (apparently, but why?) room enough for all the members of the sect.

SUMMARY: SIX PROPOSITIONS

1. The city Damascus cannot, except in some transferred sense, be regarded as site of the Ṣadoqite community life. This valid conclusion of Rabinowitz has been established independently by our research. 2. The "land of Damascus" may be considered an appellation of the Nabatæan Kingdom, at least from 87 to 63 B.C., and more probably thereafter until Paul's escape and the Nabatæan expulsion in 103 A.D. 3. Archæological remains (inscriptions, architecture, though thus far no sherds) prove the Ḥauran north of Wadi Sirḥân a lifeline linking Nabatæan Petra with Damascus throughout this period. 4. This Nabatæan Kingdom included the whole periphery of the Dead Sea except the north-west corner, and even there in the Ta'âmira desert have been found important traces of Nabatæan occupation. 5. Qumran archæology and the scrolls' content bear out the suggestion that the whole area occupied by the sect was Qumran itself, where Pliny places the Essenes and where other Judaistic lustration-sects are known to have flourished. 6. The sectaries' "flight to the north" may refer, in the light of prophetic usage, to a transfer from Jerusalem to the Qumran desert, which was virtually within the Nabatæan "land of Damascus."

ANCIENT ROCK DRAWINGS IN THE CENTRAL NEGEV

By Emmanuel Anati

In April 1954 a research party to the Central Negev was organized by the Department of Geography of the Hebrew University under the direction

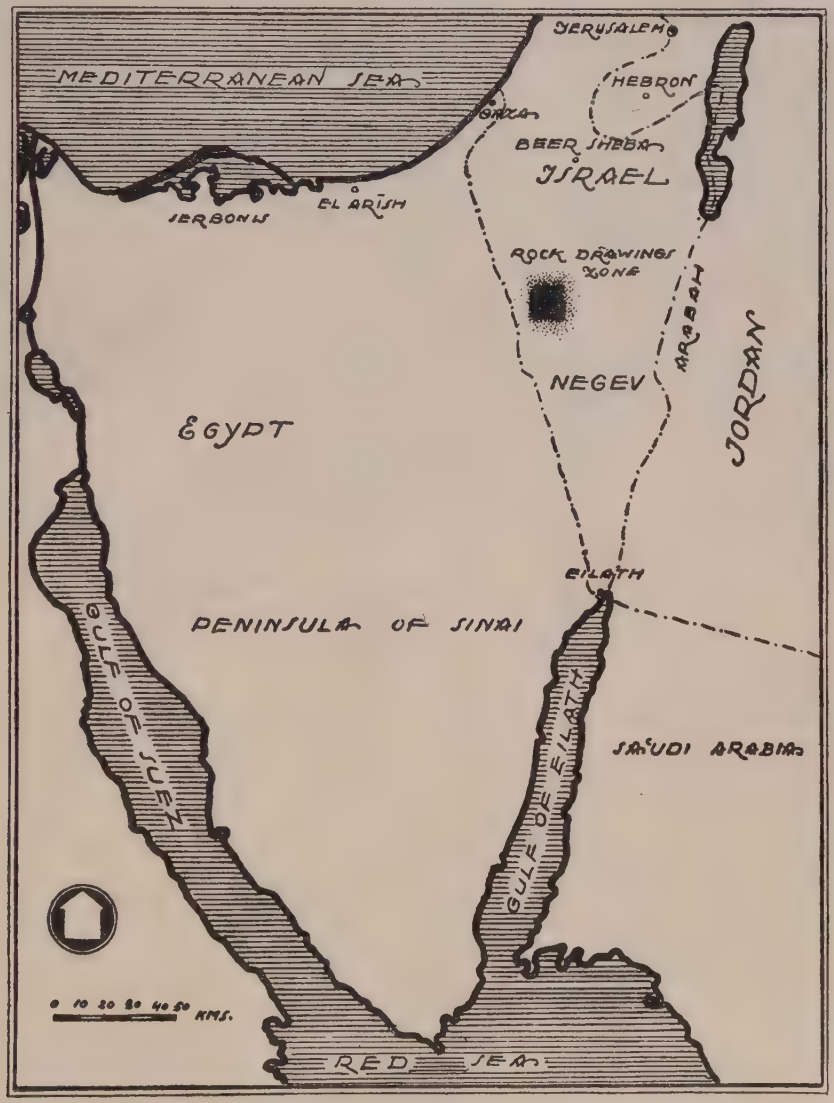


Fig. 1. Map showing situation of rock engravings. (Drawing by J. Leibovitch.)

of Dr. Amiran, who kindly allowed the author to take part. During this exploration several rock drawings were discovered, some of them associated with Nabatæan inscriptions. The writer later returned to this area accompanied by the geographer I. Keidar and carried out a further archæological survey on behalf of the Department of Antiquities.

The discovery of several hundreds of new rock drawings made it clear that this type of primitive art was widely spread over the whole region and more particularly in the mountainous area between Wadi Murra and the Egyptian border. The drawings are usually to be found in groups on hill-tops, and with a few exceptions, they are engraved on limestone covered by a black desert patina. The drawings were made by chipping the rock with flint tools, which removed the dark patina and revealed the pink colour of the rock (Plate II). Today these engravings have again become patinated in varying degrees of thickness and colour. The engravings usually represent animal groups, hunting scenes and human figures. At one period camels, horses and riders were also widely represented.

The different phases are clearly recognizable and in a number of instances, the engravings of successive phases are superimposed, always in the same sequence, so that their chronological order can be determined. Moreover, two phases are usually accompanied by inscriptions: one by Thamudic and Nabatæan, and the other by early Arabic[1]. These two phases have therefore a certain datable chronological context. No absolute date can be fixed for the other phases, but it can be established whether these are earlier or later than the above mentioned datable periods.

Fig. 2.

In a cave situated in Wadi Ramliye, several engravings were found which differ from all the others in character and technique (Style I; fig. 2). A schematic figure representing a man is seen on the right, while on the left there are other lines which may represent a horned animal, the horns being indicated by a round line. This drawing is different in its proportions from any other, its full length being about 2 m. The engraving is also much deeper than in other drawings and the inner surface is polished, which may be due to the cumulative action of natural factors such as wind and sand.

Near the cave were found flint implements belonging to the Middle and Upper Palæolithic Age, and some sherds of MB/I pottery. Not far away were more pottery fragments belonging to the Iron Age and to the Hellenistic, Roman and Byzantine periods. Remains discovered in this region so far are confined to these periods. so that we can assume that the cave-engravings belong to one of them.

[1] A Greek inscription was also found, together with drawings of style V.

A tentative comparison can be established, as regards technique, between the engravings in this cave, and some of the early drawings of Kilwa[2]. At any rate, there is no definite indication of the period in which the drawings were engraved, either here or in Kilwa. It would be rash to draw quick conclusions from the only discovery of this type in the area, but it allows us to hope that further exploration may lead to the discovery of additional examples of this style.

All the other engravings are different in character and technique from style I; they are much smaller and vary from 10 to 40 cms. in length. Among these, style II, the earlier, shows a definite emphasis on space value and a marked tendency to rounded forms. This style is represented by some isolated animals, and by one group of animals (fig. 3, Plate III). Sometimes the four legs are drawn separately, but more often the two front legs and the two hind legs are marked by only one stroke for each pair.

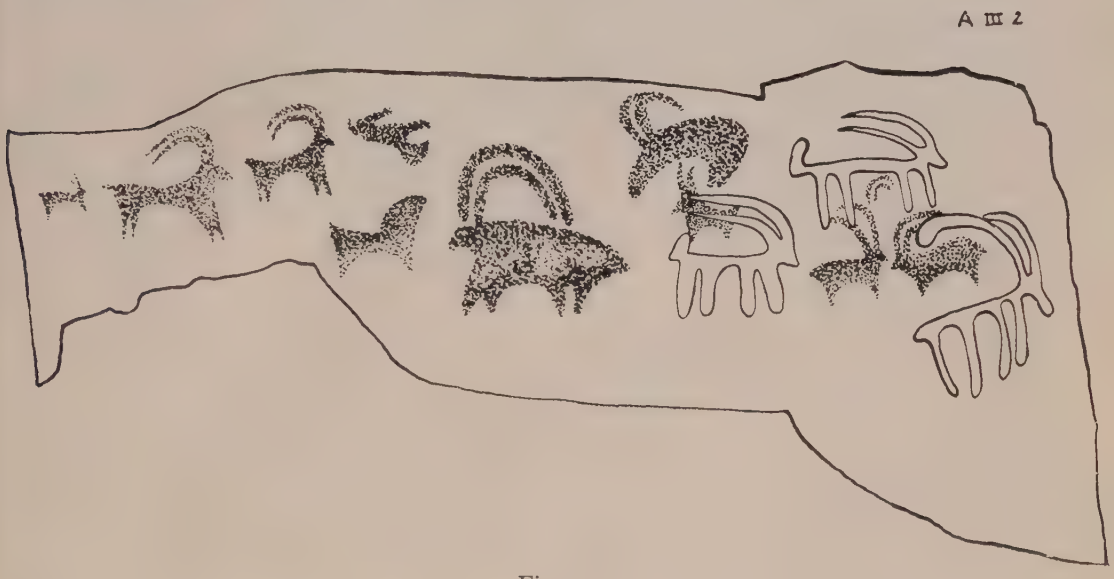


Fig. 3.

During a later period three antelopes were engraved on the same stone, but in a completely different style (Style IV). They are superimposed on the earlier engravings and their patina is of a much lighter shade. Style IV is always accompanied, in this region as well as in Sinai, by Thamudic and Nabatæan inscriptions. Near the above-mentioned stone a second stone was found bearing a Nabatæan inscription and various engravings in style IV in the same shade of patina. The approximate date of these later drawings and inscription can be fixed between the first century B.C.E. and the third

[2] Rhotert, Transjordanien, 1938, pls. 19, 24 etc.

century C.E. The difference in patina between the early engravings and the three antelopes points to a considerable lapse of time between the two styles.

Unfortunately not even the comparison with well-known material from other countries of West Asia gives us sufficient indications for an exact date for style II. A group of engravings from the Hijaz, published by Rowe several years ago, shows the same general style[3]. An Arabic inscription of the 7th century was superimposed over these drawings. The difference in patination only permits us to assume that the drawings were engraved much earlier than the inscription. Another drawing of a group of animals in a similar style was found near Kilwa and it was classed by Rhotert as the earliest among the later styles[4]. Thus the general chronological frame is similar in the three cases; for the time being, however, it is impossible to establish a more detailed chronological classification[5].

Another style (III), more realistic and lively, is represented by several engravings. We have actually no clue to the date of this style, but it shows some typical characteristics of both style II and IV (Thamudic and Nabatæan), and might perhaps be placed between these two. The drawing of a hunting scene shows us that bows were used as weapons and that dogs were used in the hunt (Plates IV; V, I). The people appear dressed in primitive garments. Another interesting detail is that the bow is held as though the people were aiming at themselves. In common with the earlier style the bodies of the figures are filled in, while later on they will be only outlined. The four legs of the animals are always marked separately, and the details, like eyes, tail, etc., are reproduced exactly, pointing to a more realistic and naturalistic approach.

At a distance of about one hundred metres from this engraved rock, another stone was found, with a Nabatæan inscription covered by a slightly lighter patina. It is difficult, however, to see in this a pointer to the age of the drawing, because the inscription faces another direction and was thus differently exposed to the influence of sun, wind and sand. Several engravings of a similar style were found in Kilwa, but there they were classed in one group together with the previously described style II[6].

A more exact dating is possible for the schematic style linked with Nabatæan and Thamudic inscriptions (IV). In contrast to those already described, this style is linear in form, and the figures are only outlined. Moreover, the drawings are generally smaller than styles II and III, being usually between 5 and 20 cms. in length. The great majority of these drawings represent antelopes; the human figure is also quite common.

[3] B. Rowe, Two Groups of Rock Engravings from the Hijaz, JNES 1950, I, p. 8 ff; pl. I a.

[4] Rhotert, *op. cit.*, pl. 24; p. 216, 1.

[5] In North Africa a similar style is known, which is dated to the Bronze Age, but we hesitate to draw any conclusions from this similarity.

[6] Rhotert, *op. cit.*, p. 216, 2 etc. A striking similarity to the hunting scene published here is shown by an engraving from Gilf-Kebir (see Rhotert, Lybische Felsbilder, 1950, pl. XXXVIII 1).

Hundreds of drawings in this style were found, all very similar to each other: they seem to be symbols, repeated over and over again. The antelope has round exaggerated horns, the legs are represented by four straight lines issuing from the larger horizontal line which represents the body (fig. 4). Straight and round lines interplay in the representation of human figures; the body is indicated by a straight line while the two arms and legs are sometimes schematized by curved lines (fig. 5). More than any other this style has left its imprint on the area. Many hundreds of these small drawings are to be found here on nearly every suitable stone.

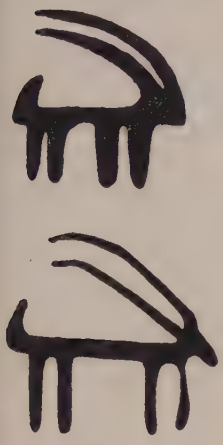


Fig. 4.

Nabatæan and Thamudic inscriptions establish the dating of this style between the third century B.C.E. and the third century C.E. After this date the same style appears slightly altered, though some of its symbols, like the antelope for example, continue to appear in the same form until much later, probably until after the Islamic Conquest.

It is interesting to note that style IV coincides with a period of great economic development for the local Arab tribes as a consequence of the centralization of trade in this area, which was a link between Arabia and the Mediterranean coast. The archæological survey of the zone

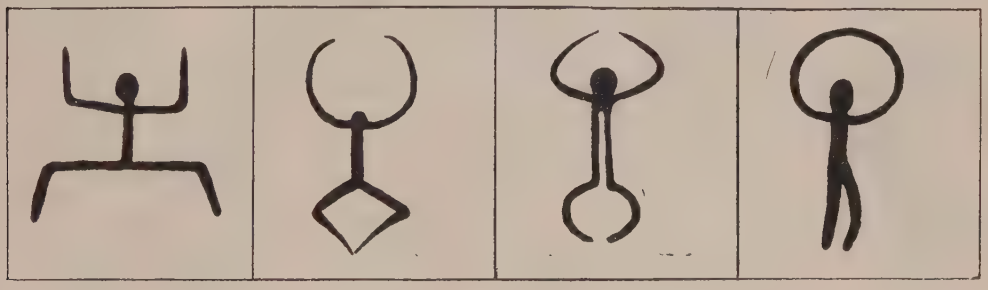


Fig. 5.

has shown an increase of population in this period, which was not paralleled at any other time. This fact is further confirmed by the great quantity of drawings belonging to this period. The many inscriptions testify to the comparatively high cultural standard of these ancient artists and to their literacy. It is noteworthy that this same period of great cultural and economic expansion produced an art which was considerably more schematic and simplified than that of both earlier and later less flourishing periods.

This style is already well known from Sinai[7], Transjordan[8], the Arabian

[7] J. Banyssonie, Revue Anthropologique XXXIV, 1924, p. 350 ff. etc.

[8] Rhotert, Transjordanien, pl. 25, 7, 9.

Peninsula[9], Syria[10], the Sahara[11], and other desert areas in Western Asia and North Africa. A few drawings in the same style have also been signalled by Alt in the Araba[12] and by De Vaux and Savignac near the oasis of Qadesh Barnea[13].

Fig. 6.

Prof. Albright, who found this style of drawing in the Sinai area, dated it to the Roman period[14]. The general identification proposed by Rhotert as regards the Kilwa engravings is also confirmed by the discoveries discussed here[15]. Several other drawings similar in their general aspect but carved in a different fashion probably belong to the period of the engravings described above. This results in a dotted technique in which every blow on the rock is clearly recognizable. These blow-marks are often quite distant from one another thus giving an indistinct appearance to the drawing. One of these drawings represents a giraffe, an animal not found among the fauna of the Negev, and probably seen by the artist in other lands (fig. 6). This dotted style is quite common in other areas and is well known especially in Southern Arabia[16].

The drawings and inscriptions described above as belonging to the Nabatæan-Thamudic period, were found in several places covered by later engravings differing in some details and usually more lightly patinated (style V). This style is characterized by the special emphasis given to movement and it is enriched by new subjects. Sometimes the whole body of the figure is engraved, though more often it is shown in outline by contour engraving. Of particular interest is the lively movement imparted by the artist to some of the figures. The number of antelopes and other wild animals represented in these drawings decreases, giving place to caravans of horses and camels, riders and archers (figs. 7–9).

Fig. 7.

While continuing to use the familiar figures of antelopes, style V shows a more extensive repertoire and greater attention to movement, and is sometimes in complete contrast with the static and monotonous style of the preceding period. Style V marks a turning point towards a new realistic approach

[9] Jaussen et Savignac, Mission archéologique en Arabie, 1914, Vol. II, pp. 34–125, et Atlas, pl. X etc.; Caton-Thompson, The Tombs and the Moon Temple of Hureida (Hadhramaut), Oxford, 1944, pls. LXIX-LXX.

[10] Dussaud et Macler, Voyage archéologique au Safa et dans le Djebel ed-Druz, Paris 1901, pls. V, etc.

[11] Cf.: P. Graziosi, L'arte rupestre della Libia, Napoli, 1946.

[12] Alt, Aus der Araba, ZDPV 58 (1935), pp. 73–74; pls. 2 A, 4 A, B.

[13] Savignac-De Vaux, Nouvelles recherches dans la région de Cades, RB 1938, pp. 89–100.

[14] Albright, BASOR 109 (1948), p. 12 ff.

[15] Rhotert, *op. cit.*, p. 185 ff.

[16] Caton-Thompson, *op. cit.*, pl. LXX.

to art and clearly shows that a fresh current of activity had penetrated the area. New elements came into the life of the people, bringing with them new experiences, which were reflected in the work of the artists.

The drawings of this period are covered in several places by the engravings of a still later style (VI), accompanied by early Arabic inscriptions (first centuries of the Moslem Era). It follows that style V must stand chronologically between the drawings and inscriptions of style IV and those of the early Arabic style VI. Its general limits might be from the third to the seventh century C.E.

Fig. 8.

Fig. 9.

In Kilwa, Rhotert recognized the order of relative chronology of the last three styles just described above, and argued that they must belong to a period preceding the Moslem conquest[17]. The new epigraphic material found in our area confirms his conclusions.

Fig. 10.

Together with the appearance of the first Arabic inscriptions, the engravings gradually degenerate again into mere schematic figures (style VI). The artist uses traditional subjects like antelopes, camels etc., and reshapes the details in a decorative way. Sometimes one pair of legs of an animal is given the " eye " shape; elsewhere the body of a horseman is drawn as if it were a second neck of the horse coming out of its back, while the heads of the beast and of the man are linked together by a parallel line which might represent the rider's arms (fig. 10). Another figure popular in this period is probably intended to

[17] Rhotert, *loc. cit.*

represent a dromedary. The body is exaggeratedly elongated, the hump has a geometric rectangular form, while the legs are represented by four asymmetric lines. Sometimes another diagonal line symbolizing the neck and head is found at one of the body's extremities (fig. 11). In the same period, simple and irregular geometrical forms appear, representing squares, rectangles, triangles, " chess board " patterns etc. This type of engraving was also found by Rhotert at Kilwa and he classed it as the latest among the styles of drawings found by him.

During the course of the centuries these rock drawings became more and more simplified and schematic (style VII). Today, as during the past thousand years, the Bedouin passing through the area use these same stones to engrave their tribe-marks, those " Wussum " which are so important in tracing the place of origin of the various Bedouin tribes and in following their wanderings throughout the lands of Western Asia and North Africa[18]. Several hundreds of these " Wussum " were also copied and photographed by the author.

The origin of these signs, as several scholars have already pointed out, is to be found in the letters of various Semitic alphabets, which are clearly recognizable and sometimes appear in a simplified or altered form. Among the different signs which have been studied, letters were found belonging to the Minæan, Lihyanite, Aramaic and Nabatæan alphabets, furnishing a good indication as to the place of origin of these tribes. Palmer was probably correct in assuming that these marks once represented the first letter of the tribe's name. He gives as an example the 'Anaza tribe whose " Wassm " is ⊙ [19]. The Bedouin have actually forgotten what their Wussum stand for, and all they know is that their tribe-mark is el-Bab: ⌋, el-'Ain: ⊙, ed-Dabbus: ⚲ etc. Some of these " Wussum " are as early as the Roman period, as they were found, in the Negev as well as in Arabia and elsewhere, accompanied by inscriptions dating to that period. These signs continue to be engraved on the stones of the desert until the present day.

Fig. 11.

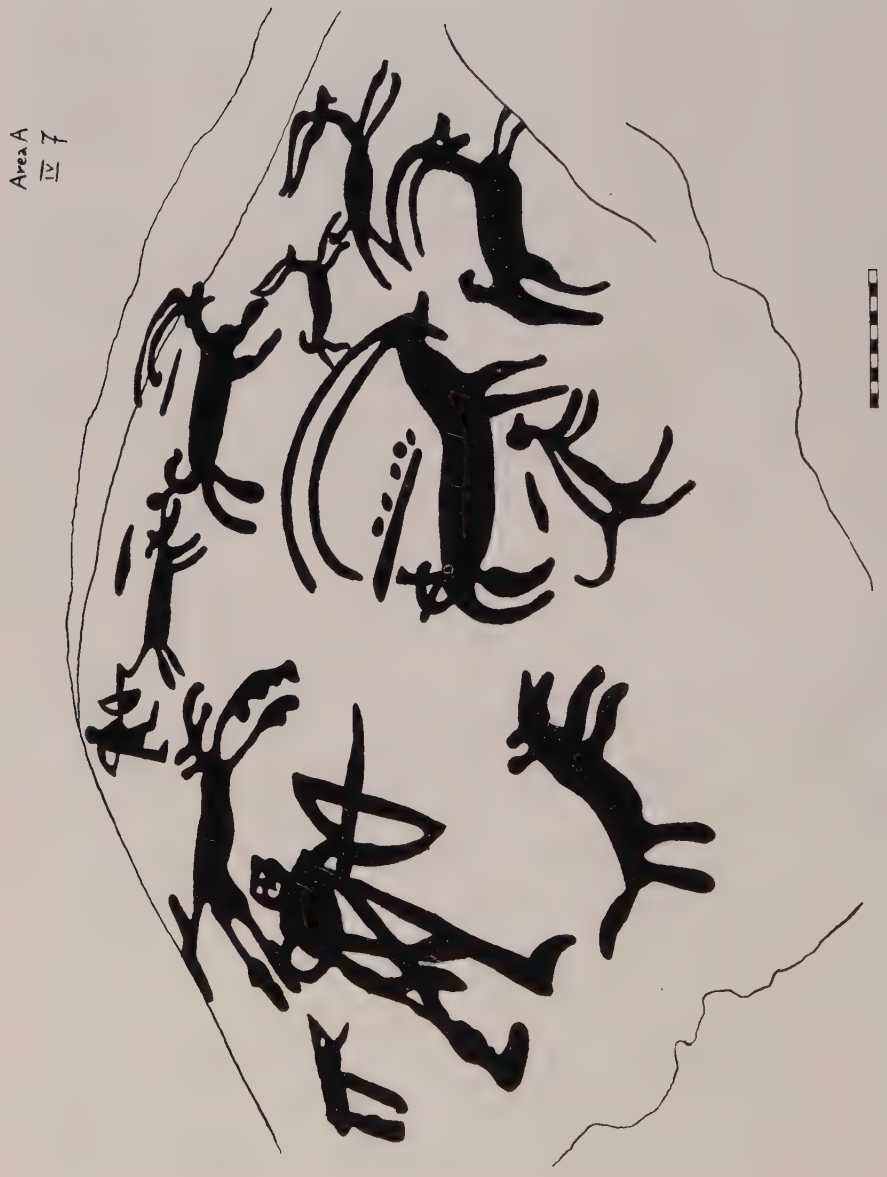
Another type of drawing engraved by the Bedouin in the past thousand years is a sort of abstract composition resembling a net, represented by straight and curved lines linked together and usually enclosed by an irregular contour line. These drawings seem to have no descriptive content nor any representative aim and not even to approach any kind of geometrical schematization. According to the local Bedouin, the modern signs represent

[18] H. Field, Camel Brands and Graffiti from Iraq, Syria, Jordan, Iran, and Arabia. Suppl. to the JAOS, 15 (1952), p. 26 ff.

[19] Palmer, Desert of the Exodus, Cambridge, 1871, II, p. 355.

An engraved rock showing flint tools *in situ*.

Group of horned animals belonging to style II.

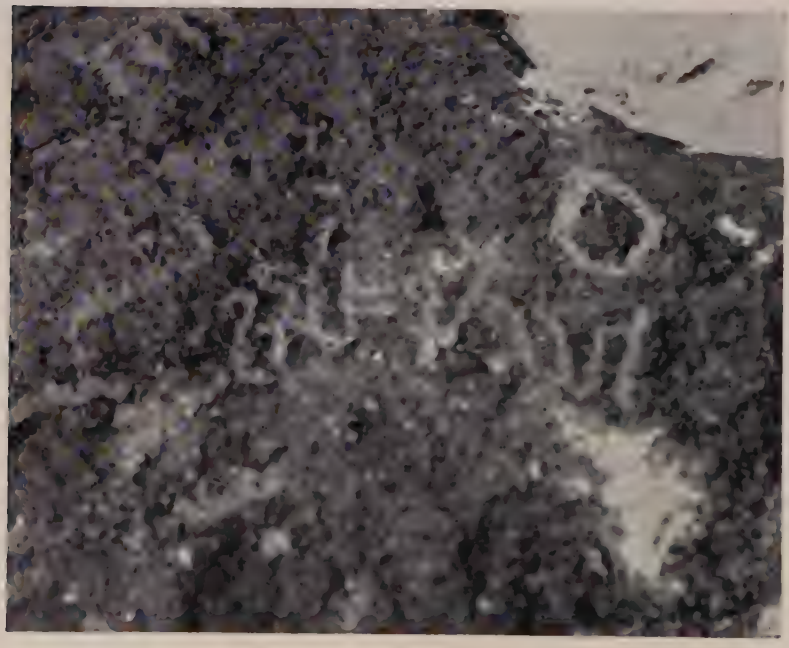


Hunting scene belonging to style III.

1. Photo of scene shown on Plate IV.

2. Modern Bedouin Petrograph.

1. Rock engravings of style IV with inscriptions.



2. Nabataean inscription, and antelope in upper left.

the work of the shepherds who, during the long hours of watch, try to express their artistic feeling by engraving on the rocks or playing their primitive flute.

In this short report it was only possible to touch on the general lines of development of this art and deal with a few obvious problems. But it must be made clear that the changes in artistic approach reflect the changes in the artists' character and mentality, and the different phases of the history of the region. Moreover, this art brings us evidence of striking cultural unity which, at various periods, linked together different countries of Western Asia and North Africa.

Description of Plates

Pl. II. An engraved rock showing flint tools as found *in situ.*

Pl. III. A group of horned animals belonging to style II overlaid by stylized antelopes from the Nabatæan period. Compare with fig. 3.

Pl. IV. Hunting scene belonging to style III.

Pl. V. 1. A photograph of the scene shown on Pl. IV.
2. A modern Bedouin petrograph.

Pl. VI. 1. Rock-engravings belonging to style IV, accompanied by a double inscription (Thamudic and Nabatæan) and overlaid by some drawings belonging to style VI, and by several modern Wussum (style VII).
2. A Nabatæan inscription accompanying an antelope belonging to style IV (the antelope is cut in the upper left of the photograph).

GOLIATH'S JAVELIN AND THE מנור אֹרגים

By YIGAEL YADIN

1. The weapons of Goliath the Philistine, are described (I Sam. xvii, 5–7) in a most vivid and detailed manner. This description—invaluable to the study of ancient Hebrew nomenclature of weapons and armour—is fairly clear[1], but for the tantalizing description of the javelin[2]: ועץ חניתו כמנור ארגים[3] which is rendered in the English Bible: "And the staff of his spear *was* like a weaver's beam."

The מנור אֹרגים (= M.O.) occurs in only three more passages dealing with the exploits of David's heroes[4] and always (as in I Sam. xvii, 7) in describing their opponents' javelins: a Philistine (II Sam. xxi, 19; I Chron. xx, 5)[5] or an Egyptian (I Chron. xi, 23)[6].

The difficulty in grasping the exact meaning of the simile, arises from the fact that on the one hand, all the commentators saw in the M.O. an indication of the size of the spear[7], while on the other hand, some of the studies in search of the exact identification of the M.O. with some part of the loom or the weaver's tools, have pointed towards the *heddle* or the *heddle-rod*, which—to say the least—is neither the biggest nor the thickest part of the loom[8].

To overcome this difficulty most of the scholars either preferred to identify the M.O. with other parts of the loom, which are definitely big and thick, or (the minority) to suggest that the *heddle-rod* could, in certain cases, be the loom's thickest part. As will be seen from the following discussion and the evidence at our disposal, both of these assertions seem unsupported.

[1] New light is shed on the meaning of the כידון in the Dead Sea Scroll: "The battle between the Sons of Light and the Sons of Darkness," p. V, ll. 11–14. (E. L. Sukenik, *Oṣar Hamegillôth Hagenûzôth*, Jerusalem, 1954). For a detailed discussion of this weapon, (which should apparently be identified with a certain type of sword), see my forthcoming commentary on the above mentioned Scroll.

[2] חנית. This word should (in my opinion) be rendered as *javelin, i.e.* a missile weapon (cf. I Sam. xviii, 11) in contrast to the רמח which is the spear, used mainly for thrusting (cf. Numb. xxv, 7–8). See my forthcoming commentary *op. cit.* (supra n. 1) to p. V, l. 6.

[3] So the Q, and the similar or parallel occurrences. The K. is וחץ.

[4] On these see my article: "Let the Young Men, I pray Thee Arise and Play before us," in the Journal of the *Palestine Oriental Society*, 1948, xxi, p. 110 ff.

[5] ועץ חניתו כמנור אֹרגים

[6] חנית כמנור אֹרגים

[7] Which must have been very heavy as we learn from the statement that the javelin's head weighed "six hundred Shekels of iron."

[8] See below.

The only way to find the exact meaning of the simile is to analyse each element in the description separately and in great detail and ascertain its nature:

(*a*) Which part of the loom, irrespective of its size or characteristics, could be identified—on philological and archæological grounds compared with the still surviving terms among the Arab weavers in Palestine—with the מנור ארגים?

(*b*) Which type of javelin—particularly those rare but mainly current in the Aegean and Egyptian worlds—would best fit the equation with the M.O.?

Before trying to answer those questions, we should, I believe, free ourselves from the assumption that the simile refers only—or at all—to the *size* of the shaft. Although this *could* be the case, we must remember that the Bible simply says that the shaft, or the javelin, was *like* a מנור ארגים.

The description of the weapons of the giant warrior, although it naturally refers to their unusual size—as must also have been the case with his javelin)[7] —emphasizes at the same time their unusual character and quality[9], as seen by the poorly-armed Israeli peasant[10].

2. In trying to ascertain the construction of the ancient looms and manner of weaving, it is unnecessary for us to go into the problems of the date of invention of various types of looms—horizontal and vertical—as in the period under discussion both types were already in vogue[11]. Furthermore, as the basic elements of the looms and manner of weaving are essentially the same in all types of *primitive* looms—ancient[12] or modern[13]—I think the following quotation from Roth's most enlightening book[14], would serve our

[9] The emphasis on the quality of the armour and weapons is obvious ("helmet of *brass*"; the *brass* coat-of-mail; greaves of *brass*, etc.) together with the stress on the unusual type of weapons: "and a kidôn of brass between his shoulders" (see supra n. 1) a שריון קשקשים etc. The impression that these metal weapons and armour (particularly the iron) made on the Israelites, must have been very great. See next note.

[10] "Now there was no smith found throughout all the land of Israel: for the Philistines said, lest the Hebrews make *them* swords or spears." (I. Sam. XIII, 19.)

[11] See *inter alia*, H. Ling Roth: Ancient Egyptian and Greek Looms, *Bankfield Museum Notes*, second series, No. 2, Halifax, 1913, p. 14 ff; C. H. Johl in Ebert's *Reallexicon der Vorgeschichte*, *S.V.* Webstuhl, [B. Ägypten] p. 261 ff; G. M. Crowfoot: Linen Textiles from the Cave of Ain Feshkha in the Jordan Valley, *PEQ*, 1951, p. 30.

[12] In addition to those mentioned in n. 11, consult: H. Ling Roth & G. M. Crowfoot in *Ancient Egypt*, 1921, p. 97 ff; H. E. Winlock: Heddle-Jacks of Middle Kingdom Looms, *Ancient Egypt*, 1922, p. 71 ff; Lillian M. Wilson: *Ancient Textiles from Egypt in the University of Michigan Collection*, Ann Arbor, 1933; E. Vogt: *Gefiechte u. Gewebe der Steinzeit*, Basel 1937, p. 97 ff.

[13] See in particular G. Dalman: *Arbeit u. Sitte in Palästina*, V. 1937 (in various places to be mentioned in the course of the present discussion); Grace M. Crowfoot: The Vertical Loom in Palestine and Syria, *PEQ* 1941, p. 141 ff; *idem:* Handicrafts in Palestine, *PEQ* 1944 p. 121 ff.; *idem:* The Tent Beautiful, etc. *PEQ* 1945, p. 34 ff. Other studies dealing with weaving will be mentioned later. See also next note.

[14] H. Ling Roth: *Studies in Primitive Looms*, 3rd ed. Halifax, 1950 p. 1 ff.

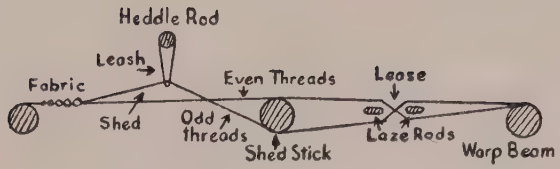


Fig. 1.

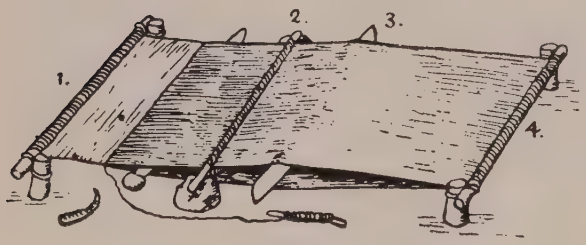


Fig. 2.

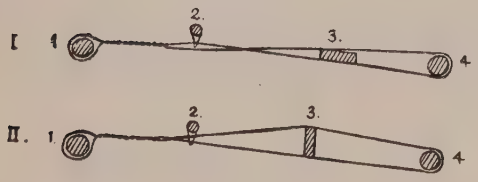


Fig. 3.

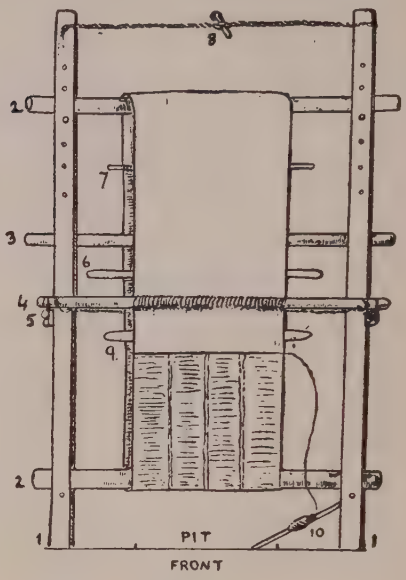


Fig. 4.

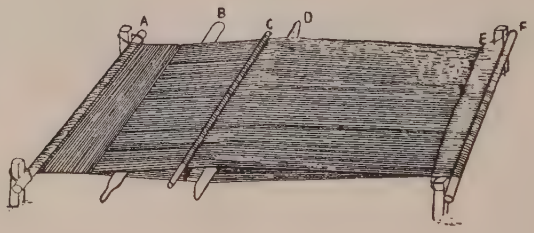


Fig. 5.

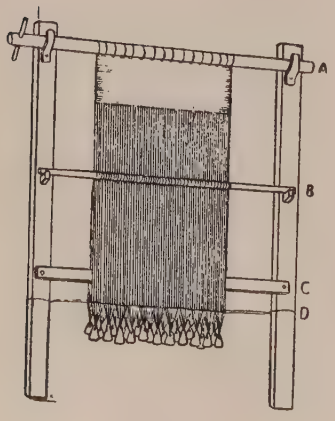


Fig. 6.

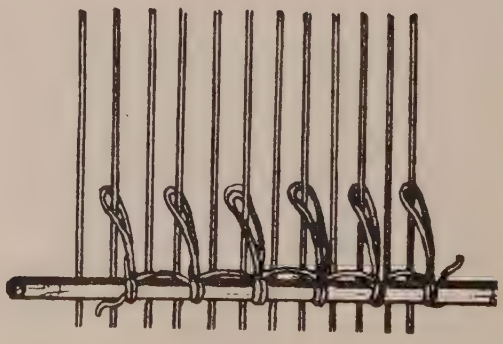


Fig. 7.

purpose admirably, as it enumerates all the beams and sticks in a loom which could potentially be identified with the M.O. (see figs. 1–7):

" It [weaving] consists of the interlacing at right angles by one series of filaments or threads, known as the *weft* (or woof) of another series known as the *warp*, both being in the same plane. The warp threads are stretched side by side from a *cloth* or *breast-beam*, to another beam known as the *warp-beam*, often spoken of as *the beam*, and the weaving is encompassed as follows: The *odd threads* (1, 3, 5, 7, 9, etc.) are raised by means of the fingers, leaving the *even threads* (2, 4, 6, 8, 10) in position. By raising the odd threads only, a space or opening is formed between the two sets of threads, which is called the *shed*. Through this shed the weft thread is passed, or as it is termed, a *pick* or *shot* is made. This weft thread (or pick) is straightened and pressed home into position at right angles to the warp by means of a *sword* or *beater-in*. The odd threads are then dropped back into position and the even threads are now raised instead, whereby a new or countershed is produced and the pick made as before . . .

To make the work easier and more expeditious, a rod, the heddle, or *heald-rod*[15], is placed across the warp; to this rod the odd warp threads are lightly attached by a series of *loops* or *leashes*, so that when the rod is raised all the odd threads are raised together instead of singly by the fingers and through the shed so formed the pick is made. When the rod is dropped, the odd threads fall back into position, between the even threads. But as the even threads are now not raised, the odd threads must be made to fall below the even threads to make the next or countershed.

The odd threads are therefore pulled down at first by the fingers, and in the counter shed so made a thick rod or *shed-stick* is inserted. This shed-stick remains in this position until the whole warp is used up, or, in other words, the piece of cloth is woven, and its action may be described as follows: When the heddle is raised, the pick made, and the heddle dropped again, the shed-stick, owing to its thickness, forces the odd threads below the even threads, and so the counter shed is obtained[16]. . . . The difficulty experienced in keeping the warp threads from getting entangled one with another, especially when these threads are long and the cloth to be woven is broad, is overcome by crossing them with one or two pairs of rods . . . This crossing of the warps is called a *lease*, and hence the rods are called the *lease-rods*, corrupted into *laze-rods* . . . in the

[15] Called also the *leash-rod* (Y.Y.)

[16] In fact the same result—*i.e.* of obtaining a shed and counter-shed, can be achieved by having a permanently-raised heddle-rod and a *flat* shed stick, as is for example the case in the primitive loom described by G. M. Crowfoot, *op. cit.* (supra n. 13) *PEQ*, 1944, p. 124: " The heddle rod being permanently raised, gives the shed, and to obtain the counter-shed, the shed rod is turned on edge, thus facing the shed rod threads above in their turn." See Figs. 2–3.

quite early stages the warps are more or less bunched at the lease, and do not require any laze-rods."

Now which of the above mentioned rods and beams is the מנור?

3. Let us deal first with the etymology of the word. All the scholars have pointed out that the mānôr must be connected etymologically with the Syr. ܢܝܪܐ, Aram. נירא, Heb. ניר and Arab. نير[17]. While all these words basically denote the *yoke*—as in the Acc. nîru[18]—they are also used as a technical term for the *heddle*[19]. The reason for that can be easily understood if one looks at Figs. 1, 2, 3, 7, where one can see that the primitive heddle (in particular in the horizontal looms) greatly resembles the *yoke*, *i.e.*, a horizontal shaft with loops hanging from it around the necks of the 'animals'/the threads. The primitive *heddle* being no more than the shaft and the leashes, it is no wonder the word *nîr*—although clearly and basically denoting the heddle as a whole[20]—is used sometimes (but not exclusively) to denote the leashes[21] and sometimes the rod[22]. Having established the connection between the מנור and the *nîr*, (= the heddle), it is logical to assume that the מנור must be either identical with it, or more probably—because the Biblical simile concerns the shaft of the javelin—the *heddle-rod*.

The identification of the מנור with the heddle-rod is supported by the Greek and Latin versions. While the LXX renders the מנור in I Sam. xvii, 7, by a most obscure and unknown word: *μέσακλον*[23], Aquila's and Theodotion's: *ἀντίον*—agrees with the LXX's rendering of the mānôr, in all the other passages mentioned above[24]. The *ἀντίον* is explained by the

[17] See all the dictionaries *s.v.* מנור.

[18] Used most frequently in defining the chariot-horses as *horses harnessed to the nîr*.

[19] See Gesenius-Buhl: *Handwörterbuch über das A.T.*, 1910: "Die Vorrichtung, durch die die Fäden des Aufzuges gehoben und gesenkt wurden"; and so in the dictionary of Brown, Driver and Briggs: "The system of heddles or "apparatus [of small cords with loops or eyes] by which the threads of the warp are raised and lowered to make an opening for the passing of the woof"; and so rightly Y. Gur, in his Hebrew Dictionary *s.v.* **ניר**. See also: A. S. Hershberg: *The Cultural Life in Israel at the Times of the Mishna and Talmud* (Hebrew), Warsaw, 1924, p. 148.

[20] So most of the Jewish commentators (and Ben-Yehuda *s.v.* **ניר**) on Mishna, Shabbath, 13, 2: **העושה שתי בתי נירין בנירין** which is translated by Danby: ". . . that makes two loops to the heddles . . ." The **בתי נירין** are most probably the loops (so, Kennedy, *op. cit. infra* n. 32).

[21] *Inter alia* see G. M. Crowfoot, *op. cit.* (supra n. 13) *PEQ* 1945, p. 45, and in particular, *idem*, (supra n. 13) *PEQ* 1941, pp. 150–151. To the observations of Mrs. Crowfoot that the Arab weavers still call the heddle *as a whole*, nîr, one should compare the words of the *Qamus*, who defines the نير : القصب والخيوط اذا اجتمعت *i.e.*, "The canes and the threads when they are put together" in which, obviously the *heddle* is meant (cf. G. F. Moore, in PAOS, 1889, p. CLXXVI ff.) —as in the similar definition of the نيرة —and not as explained by Lane, *s.v.* "App. cane-roll on which the warp is rolled when put into the loom and from which it is gradually unrolled as the work proceeds." The passage from an unknown poet quoted by Lane suits the *heddle* and not the warp beam: تَقْسِمُ أُسْتِيَّاً لَهَا بِنَيْر *i.e.*, "She divides the warp that she has with a nîr."

[22] So Rieger, Jastrow and Kennedy (*op. cit. infra* n. 32) as well as Krauss, *op. cit. infra* n. 29.

[23] See infra n. 38.

[24] . . . *ὡς ἀντίον ὑφαινόντων*

late Greek lexicographers as the *κανών*[25]—an explanation accepted by most modern scholars—which is identical with the Heb. קנה (= heddle-rod in the Mishna) and is still in use in that sense among the Arab weavers[26]. The Vulgate renders the mānôr in all the passages as *liciatorium*[27] which is the late Latin term for the heddle-rod.[28] The Targum uses the word אכסן, the meaning of which is unknown[29]. The proposed identification of the mānôr with the heddle-rod, finds a corroboration in the fact that the heddle-rod is still called by some Arab weavers in Palestine (and particularly among the Beduins) *Minyar*[30], which is the closest in form to the mānôr amongst the known terms of weaving.

If so, we might ask, why has this apparently obvious identification not been accepted by most of the scholars who dealt with the subject? The reason for that has already been pointed out at the beginning of the discussion, *i.e.* the simile having been understood to refer to the *size* of the javelin—an assumption which is not necessarily the only one according to the Hebrew text—it could not identify mānôr with the heddle-rod, which is by no means the thickest rod in the loom (as can be seen in all the figures accompanying the article)[31].

Dalman, who has observed the usage of the word *minyar*, among the Arabs, for the heddle-rod, was quite naturally tempted to identify it with this rod. Nevertheless, his arguments against such an identification are characteristic of many others, in that it indicates the inner struggle he must have had between his observations and philological deductions on the one hand, and the "obsession" of the allegedly extraordinary thickness of the shaft, on the other:

> "Um einen ungewöhnlich dicken Speer anschaulich zu machen, wird er 1 S. 17, 7; 2 S. 21, 19; I Ch. 11, 23; 20, 5; mit einem menōr

[25] Cf. Pollux, VII 36: "*κανὼν ἱστοῦ τὸ καλούμενον ἀντιόν*". This identification is now accepted by most scholars (see Blümner, *Technologie und Terminologie der Gewerbe und Künste bei Griechen und Römern*, Leipzig u. Berlin (2nd ed.) 1912, p. 148 ff., and further references there) in preference to the previous identification with the shutter (still to be found in Liddell & Scott's *s.v. κανών*).

On the term *κανών* = heddle-rod (originally the Semitic קנה = reed, mentioned several times in the Mishna and Talmud in this sense): cf. most of the authorities mentioned above as well as H. L. Lorimer: *Homer and the Monuments*, London 1950, p. 192.

[26] See G. M. Crowfoot, *op. cit.* (supra n. 13) *PEQ*, 1941, p. 150.

[27] "Hastile autem hastae ejus erat quasi liciatorium texentium" (I Sam. XVII, 7) and similarly the other passages.

[28] Smith, Wayne & Marindin: *A Dictionary of Greek and Roman Antiquities*, London, 1891, p. 766; Kennedy, *op. cit.* (infra n. 32) p. 5284.

[29] אכסן דגרדאין which is probably to be connected with the Greek *ἄξων*. Cf. Levy: *Chaldäisches Wörterbuch uber die Targumim*, Leipzig, 1867, *s.v.* אכסן. Although the term *ἄξων* is otherwise unknown as a technical term of weaving (cf. Dalman, *op. cit.*, supra n. 13, p. 112) it seems to refer to one of the beams (cf. Krauss: *Talmudische Archäologie*, Band 1, Leipzig, 1910, p. 50 and n. 289). If so the Targum is the oldest authority to understand the simile as referring to the *size* of the javelin.

[30] Cf. Dalman *op. cit.* (supra n. 13), p. 97; G. M. Crowfoot *op. cit.* (supra n. 13) *PEQ* 1945, p. 45.

[31] Cf. also supra n. 25.

> ōregīm, also einen Webegerät verglichen. . . . Da mānōr mit dem aramäischen und Syrischen nīr "Joch" zusammenhängt schiene es möglich, den Jochstab (= the heddle-rod) des Webstuhls dafür einzusetzen, *wenn nicht der zusammenhang das stärkste Holz forderte, das Weber anwenden* . . . Aber schliesslich konnte jedes starke Querholz als etwas Jochartiges betrachtet werden . . ."[32]

Having reached the conclusion that the מנור should be identified with the leash/heddle-rod, we have to understand the simile as referring not to the size of the javelin but to its shape or *appearance*. If so, it is worthwhile to add a word or two concerning the shape and character of the heddle-rod.

The most characteristic features of that rod are the *leashes* or *loops* which are tied to it (see fig. 7); so much so, that this rod is called in various languages accordingly: liciatorium, leash-rod, schlingenstab, etc. There are various ways of attaching the leashes or loops to the rod, some of which are described by Roth as follows[33]:

> "The heddle leashes are either single or continuous. If single, (that is, if every leash is made of a separate piece of filament, spun or not-spun) these leashes are often bunched together . . . or every leash is tied up separately. If continuous (that is, one long filament serves for making all leashes required), then the leashes are either spiral or alternate . . ."

In other words—as can be seen from Figs. 4–7—the leash-rod is wrapped by spiral—or parallel threads by means of which the leashes are attached to the rod.

4. Having established the identification of the מנור and its shape, we can proceed to the final phase of the current study and look for a type of a javelin which should fit the following requirements:

(1) Similarity in shape to the leash-rod.
(2) Usage by the people of both the Aegæan and the Egyptian spheres.
(3) Being out of vogue among the Israelites of that period.

In this search, one is immediately reminded of the famous javelin called by the Greeks ἀγκύλη (= leash or loop)[34] and by the Romans *am(m)entum*[35].

[32] *Op. cit.* (supra n. 13) p. 112. And also most of the authorities mentioned above. See for example, in Brown, Driver and Briggs *s.v.* מנור (following G. F. Moore, *op. cit.* supra n. 20) where although the ניר is explained as the heddle (supra n. 20) the מנור is explained as the "beam (prob. round) carrying the heddles (in loom) . . . all simile of thick and heavy shaft of spear."

It may be added here in addition to what has been said above against this identification, that the heddles (or heddle-rods) are suspended from the breast-beam only in the vertical loom and even then not in all types, as can be seen from two vertical looms reproduced in Figs. 4; 6.

Galling who based his discussion also on the assumption that the simile refers to the *thickness* of the spear (*Biblisches Reallexicon*, Tübingen, 1937, p. 538) points out that the loom in question is not the vertical but the horizontal one. Nevertheless he identifies the מנור with the "Tuchbaum." His reconstruction of the horizontal loom (Fig. 2 on

Many studies have been dedicated to this peculiar kind of javelin[36], and the following quotations from Gardiner's article[37] will give us the necessary data concerning its shape and method of throwing (see Figs. 8–13):

" It was thrown by means of a thong called ἀγκύλη or amentum, fastened near the centre of gravity of the javelin, which was therefore

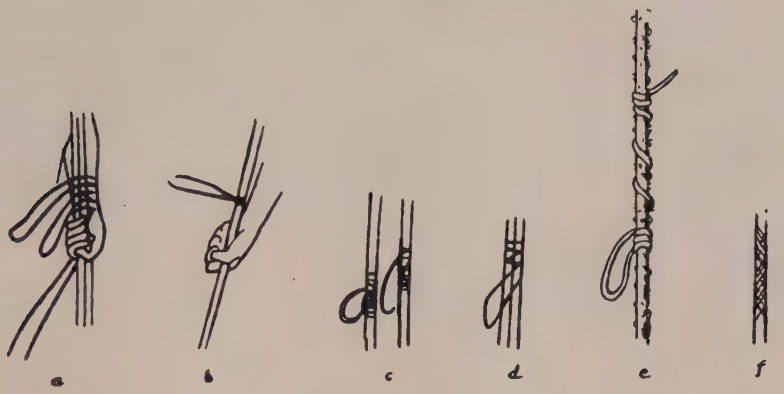


Fig. 8.

called μεσάγκυλον[38]. The amentum was a leathern thong a foot or eighteen inches in length, if we may judge from the numerous representations of an akontistes holding an amentum loose in one hand and a

p. 537) is not so clear to me: Although he mentions in the description the " Trenn- und Schlingenstab " (= shed and leash rods) what is actually seen in the picture, are two *shed-rods* only. On the other hand, Kennedy's strong arguments in favour of the identification of the מנור with the heddle/leash-rod (*Encyclopaedia Biblica*, London, 1903, *s.v.* weaving) have not been accepted by the scholars, because his assertion that " the shaft of a good sized loom with a heavy warp must have been considerably thicker than the ordinary light spear-shaft," is indefensible! Even in such a loom the heddle-rod would be less thick than the two beams, which are naturally also thicker than the beams in an ordinary loom.

[33] *Op. cit.* (supra n. 14) pp. 2–3.

[34] See *Liddell & Scott s.v.* II: "a *loop* or *noose* in a cord. 2. the thong of a javelin, by which it was hurled. Lat. amentum . . . hence the javeline itself."

[35] See Lewis & Short *s.v.*: " a strap or thong esp. upon missile weapons, by means of which they were thrown with greater force."

[36] See *inter alia* Daremberg & Saglio: *Dictionnâire des Antiquitès Grecques et Romains*, *Paris*, Tome 1, (1878), p. 226a ff. *s.v.*: *Amentum*; E. Norman Gardiner: Throwing the Javelin, *The Journal of Hellenic Studies* Vol. XXVII, 1907, pp. 249–273; P. Couissin: *Les Armes Romaines*, Paris 1926, p. 121 ff; George E. Mylonas: The Bronze Statue from Artemision, *AJA*, Vol. XLVIII, 1944, p. 143 ff; H. Bonnet: *Die Waffen des Völker des alten Orients*, Leipzig 1926, p. 105 ff.

[37] *Op. cit.* (supra n. 36), p. 251.

[38] It is worthwhile perhaps to note here, the similarity between this word and the one in which the מנור in I Sam. XVII, 7, was rendered by the LXX: μέσακλον. The fact that such a word does not occur in any other Greek source, has led some scholars to see it as a Semitic loan-word such as מסכת. (See, Moore *op. cit.* supra n. 20, who sees in it a variant form " of a non-Greek word, in which the Semitic original is discernible " and in the other variants in the MSS. " an etymological attempt to make something Greek out of it.") On the improbability of such a suggestion see, Kennedy, *op. cit.* (supra n. 32).

javelin in the other. It was bound firmly round the shaft of the javelin in such a way as to leave free a loop three or four inches long, in which the thrower inserted his first, or first and middle fingers; the point of

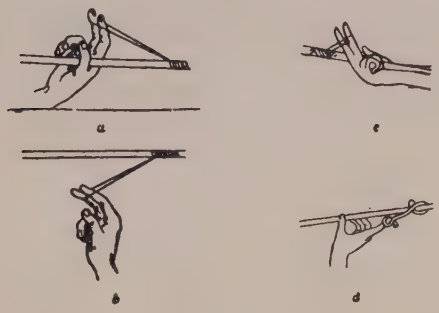


Fig. 9.

Fig. 10.

attachment was the centre of gravity, in the light-headed javelin of the athlete almost in the centre of the shaft, in the more formidable weapon of war or the chase, generally nearer the head."

The *ἀγκύλη* or amentum was clearly used by fighting soldiers (see Figs. 10, 11) and in fact " it is obvious that the amentum was not as is some-

Fig. 11.

Fig. 12.

times stated, the invention of the gymnasium, but was adopted by the gymnasium from war and the chase. This has been abundantly proved by the monuments."[39]

The *μέσακλον* is rendered in some of the MSS. by what Kennedy describes as " a set of curious variants " such as: *μεσακνον*, *μεσαυλον* as well as *αντιον* and *μεσαντιον* (on these see supra n. 25). While the *μέσακλον*, as stated above, has not been explained until now, the *μέσακμον* is explained as the *κανών*. See *Hesychius*, *s.v. μέσακμον = κανών τοῦ ἱστοῦ οἱ δὲ ἀντίον*. In the Suidas it is explained as: *τῷ κανόνι τῷ μέσῳ καλάμῳ τοῦ ἱστοῦ*. Cf. Blümner, *op. cit.* (supra n. 25), p. 148, notes 5–6.

[39] Gardiner, *op. cit*, (supra n. 36), p. 252.

The method of throwing the amentum has been subject to considerable debate among the scholars but experiments have proven its importance. To quote Gardiner again[40]:

> " The amentum served various purposes. In the first place it enabled the thrower to give a rotary motion to the javelin, which not only helped it to keep its direction, acting on it in the same way as the rifling of a gun on a bullet, but also increased its carry and its penetrating power . . .

Fig. 13.

a

b

Fig. 14.

> The carry was further increased by the additional leverage given to the thrower's arm[41]. . . . Experiments have amply established the practical use of the amentum with a light javelin. In the experiments made by General Reffye for the Emperor Napoleon, it was found that a javelin which could be thrown only 20 metres by hand could be thrown 80 metres with amentum. According to Jüthner an inexperienced thrower increased his throw from 25 to 65 metres."[42]

According to Gardiner there is a case for concluding that this weapon has been used already in Homeric times, as suggested by Jüthner[43].

When we turn to Egypt we are on much firmer ground, as the ἀγκύλη has been depicted on several monuments, the oldest of which is from the XIXth Dynasty (*i.e.* barely 200–300 years before the time of King Saul), as has been shown by Bonnet.[44]

[40] p. 251 ff.

[41] Cf. also Couissin *op. cit.* (supra n. 36), p. 126.

[42] Gardiner, *op. cit.*, p. 252. On these experiments and others, see also, Couissin, *op. cit.* (supra n. 36), p. 127, n. 5.

[43] *Op. cit.*, p. 252: " Whether it was used in Homeric times is uncertain . . . The warrior vase from Mycenae, however, clearly shows two types of spear, a long spear carried with clenched fist, and a short spear, raised almost at arms' length behind the head, with the point somewhat downwards, in a position commonly represented in hunting scenes. The hand is sharply pointed as if the fingers were extended, and a comparison of the way in which the spear is held, with the hold shown in Figs. 6 and 7 (of Gardiner's article, Y.Y.) confirms Juthner's view that the artist intended to represent a weapon thrown with the amentum." On the literary sources concerning the antiquity of the amenthum, see, Couissin, *op. cit.* (supra n. 36), p. 124, n. 1.

[44] *Op. cit.* (supra n. 36), p. 105 ff and fig. 49a.

Curiously enough the only depiction from Palestine, of what appears to be an ἀγκύλη is from Tell-el Fāra'h, South of Gaza, in Philistia (Fig. 15)[45]. Although this type of weapon seems not to have been in use in Western Asia,[46] I suspect it is depicted on several of the famous silver-bowls from Cyprus, from about 700–600 B.C. (see Fig. 14).[47]

Fig. 15.

5. Having analysed each element separately, let us now sum up the conclusions and results of the current survey.

(1) The simile *like* מנור ארגים refers to the *shape* and nature of Goliath's javelin and not to its *size*.

(2) The מנור is most probably the *leash* (or *heddle*)*-rod* of the loom[48]—the main characteristic features of which are the leashes and loops attached to it.

(3) A javelin very similar in shape to the leash-rod is the ἀγκύλη (μεσάγκυλον) or amentum, which—like the former—was named after its most characteristic featurs, *the loop* or *leash*.

(4) The ἀγκύλη was in use both in the Aegæan and Egyptian spheres of influence and in fact in them alone—a fact which conforms with the Biblical narratives.

(5) The ἀγκύλη was not in use among the Israelites and thus had no specific technical term; the ἀγκύλη must have been considered quite a new invention in the times of the Judges and Saul.

If the above suggestion is accepted, then the passage should be translated as follows: " And the staff of his javelin (was) like the weavers' heddle-rod " (in shape).

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[45] See K. Galling, *op. cit.* (supra n. 32), p. 355 and there fig. 8 and references.

[46] Bonnet, *loc. cit.*

[47] See G. Perrot & Ch. Chipiez: *History of Art in Phoenicia*, London 1885, p. 353, Fig. 272, as well as E. Gjerstad: Decorated Metal Bowls from Cyprus, *Opuscula Archaeologica*, Vol. IV, Lund, 1946, Pl. IX.

[48] " The Development of the heddle is the most important step in the evolution of the loom " (H. Ling Roth, *op. cit.* supra n. 11, p. 8). The heddle-rod must have been, therefore, quite known even to those who were not weavers themselves. In fact the heddle or heddle-rod could be defined as the weaver's instrument *par excellence* because in " the method of opening the warp for the intersection of the weft thread . . . consists the whole art and secret of weaving." (L. Hooper: *Hand-Loom Weaving*, London (reprinted) 1949, p. 81).

The Figures.

Fig. 1. Diagram to illustrate the principles of weaving. (From H. Ling Roth: *Studies in Primitive Looms*, Halifax 1950 (Third ed.). Fig. 1. Courtesy of the Bankfield Museum, Halifax.)

Fig. 2. The Beduin Loom: 1. Breast Beam. 2. Rod Heddle supported on sontes. 3. Shed Rod. 4. Warp Beam. The sword Beater is seen in the shed. (From Grace M. Crowfoot: Handicrafts in Palestine, *PEQ* 1944, Fig. 1, p. 123. Courtesy of the Palestine Exploration Quarterly.)

Fig. 3. Shedding Diagram of the Beduin Loom, Nos. 1–4 as in Fig. 2. I. The heddle is fixed and gives the shed. II. The shed Rod is turned on edge to force the Shed Rod threads above the Heddle threads and give the countershed. (From: *idem* Fig. 2, p. 123. Courtesy of the *PEQ*).

Fig. 4. An Arab Vertical Loom. No. 4 is the Heddle. (From Grace M. Crowfoot: The Vertical Loom in Palestine and Syria, *PEQ*, 1941, Pl. XIV, Fig. 1. Courtesy of the *PEQ*.)

Fig. 5. An Egyptian Horizontal Loom. A. Breast Beam. B. Sword Beater. C. Heddle Rod. D. Shed Rod. E. Lease. F. Warp Beam. (From E. Vogt: *Geflechte u-Gewebe der Steinzeit*, Basel 1937. Fig. 151 on p. 101. Courtesy of E. Birkhäuser & Co.)

Fig. 6. Vertical Loom with Weights. B. Heddle Rod. (From *idem.*)

Fig. 7. The Heddle: Rod and Leashes. (From L. Hooper: *Hand-Loom Weaving*, London (Repr. 1949). Fig. 40 on p. 86. Courtesy of I. Pitman & Sons.)

Fig. 8. Various Methods of Attaching the ἀγκύλη or amentum. *a.* Vase of Hieron. *b.* B.M. Kylix E 58. *c.* B.M. Lekytoes E 698. *d.* B.M. Kylix E 96. *e.* Alexander Mosaic. *f.* B. M. Amphora e 316. (From E. Norman Gardiner: Throwing the Javelin. *The Journal of Hellenic Studies*, Vol. XXVII, 1907. Fig. 1, p. 250. Courtesy of *J.H.S.*)

Fig. 9. Methods of throwing the ἀγκύλη. (From: *idem*, Fig. 4, p. 257.)

Fig. 10. Soldiers using the ἀγκύλη, Francois Vase. (From *idem*, Fig. 3, p. 253.)

Fig. 11. A soldier using the ἀγκύλη, Interior of B.-F. Kylix, B.M. e 380. (From *idem*, Fig. 2, p. 252.)

Fig. 12. Athletes examining the ἀγκύλη. R.-F. Psykter of Phintias. (From: *idem*, Fig. 5, p. 259.)

Fig. 13. Horseman throwing the ἀγκύλη. B.-F., Acropolis, Athens. (From: *idem*, Fig. 8, p. 261.)

Fig. 14*a*. Infantry with ἀγκύλη (?). 14*b*. Horseman with ἀγκύλη (?). Plate from Dali. (After; Perrot & Chipiez: *History of Art in Phoenicia*, London 1885, Fig. 272, p. 253.)

Fig. 15. A soldier with ἀγκύλη. Tell-el Farah (South of Gaza, Palestine). (After; *Beth Pelet II*, London 1932, Pl. 93; K. Galling: *Biblisches Reallexicon*, Tübingen 1934, Fig. 8 on p. 355.)

THE GOATS OF EARLY JERICHO

By F. E. Zeuner

In view of the great antiquity of the pre-pottery Neolithic of the tell of Jericho and of the virtual continuity of its sequence into the historical period, the study of the fauna becomes an important matter. All remains found may be regarded as evidence for food, even though a few sacrifices may be included, as these also may be presumed to represent animals used for food. Most bones are in a fragmentary condition as is usual with kitchen refuse, and those that can be identified with certainty are few. In the spring season of 1954 I was able to sort the osteological material found. In addition I had the 1952 and 1953 finds at my disposal in London.[1] In order not to overload the general discussion with technical details, the description of the specimens and of material from ancient Syria, Cyprus, Egypt, Sudan, and of modern goats has been relegated to the appendix.

Pre-pottery Neolithic fauna

The result of the survey of the Jericho fauna, which will be followed up with detailed studies, was somewhat surprising. Apart from the dog, there appeared to be no unambiguous evidence for domesticated animals in the pre-pottery Neolithic. This is unlikely to mean that the Jerichoans of that period had no domesticated hoofed animals; nevertheless it is a fact that most of the evidence for their presence melted away upon closer scrutiny. There is no doubt that hunting provided a high proportion of the meat supply of Jericho in pre-pottery Neolithic times. Gazelle is frequent. The large bovine present is, on the evidence of a horn core, a *Bos primigenius*, and thus a wild form. Similarly, the pig is of a size suggesting the wild pig of the Jordan valley. Other bones and teeth are of ruminants larger than sheep but smaller than cattle, and these may comprise some antelopes. A very large number of bones comes from animals of approximately sheep size, and of these many are gazelle. The remainder may contain sheep and goat, but whilst horns have been found both of gazelle and of goat, those of sheep are at present lacking. It will be interesting to see whether the next season's collection will fill this gap.

Regarding the frequency of gazelle, two alternative interpretations are suggested. The obvious one is that the gazelles were hunted and their carcasses brought into the town, and this has been adopted for lack of evidence to the contrary. It is, however, not inconceivable that gazelles

[1] For reports on these excavations, see Kenyon in P.E.Q. (1953, 1954).

were kept in captivity at Jericho, as they were in Egypt in the early Dynastic period. It is hoped that the detailed study of the gazelle remains from Jericho will shed light on this possibility.

The goat of the pre-pottery Neolithic phase

There remains the goat. The first indication of its presence was a crushed frontlet on which the writer reported briefly after Dr. Kenyon's lecture to the Palestine Exploration Society, delivered in the rooms of the Society of Antiquaries in November, 1952. The 1953 season produced more informative material, comprising one large male horn-core (Figs. 1, 6) and two female ones (Figs. 2, 7; 3, 8). These belong without a shadow of a doubt to a *Capra* with straight and upright horns, not to the screw-horn type which becomes common in the Bronze Age. As to specific identity, these horn-cores may belong either to the Sinaitic ibex (*Capra nubiana* Cuvier), or to *Capra ægagrus* Erxleben, the wild goat of western Asia and Crete, or to a primitive domesticated form derived from the latter (these are usually called *Capra hircus* Linné).

Can the Jericho goats be ibex ? The only native wild goat now present on the mountains bordering the Jordan valley is the Sinaitic ibex. On the west side it is to-day an occasional visitor. Bodenheimer reported it as a member of the Palestinian fauna, and it is said to occur occasionally even in the neighbourhood of Jerusalem. A colony survives in the mountains near Engeddi. This animal is locally called *beden* and has in the male large scimitar-shaped horns with a pronounced anterior edge studded with somewhat irregularly placed knobs. In this respect it is intermediate between the true goats and the true ibex, but it has to be classified with the latter for a variety of reasons.[2]

In order to compare archæological with recent material, it is of course necessary to use the bone cores of the horns, since the horny sheath has nearly always perished. The cores have usually only about two-thirds of the length of the horn sheath. The shape of the core changes from the base towards the tip, and measurements have therefore been made at about the same distance from the base, *viz.*, at the end of the basal third of the core. This applies to all archæological and zoological specimens used in this investigation, except where stated otherwise.

If the Jericho specimens are thus compared with horn-cores of the bucks of the beden, it is at once seen that they differ profoundly. In spite of the presence of an anterior keel on the *horn* of the beden, its *core* is broadly rounded

[2] The chief reason is that the beden horn-cores have the same cross-section as those of ibex, lacking the anterior keel of the bezoar. Schwarz (1935), therefore, was mistaken in assigning the beden to the true goats. The simple picture of the geographical distribution of goats and ibex which he developed cannot be upheld. Syria was an area of geographical overlap, though it is unlikely that the two ever occurred together in the same locality and at the same time. For this to happen they are too closely related.

anteriorly (Figs. 9–11). This remarkable fact has been checked on several specimens. It might be argued that the Jericho specimens were females. This is probably true of two out of the three, the largest being certainly a male (Figs. 1, 6). Only one apparently female specimen[3] of the Nubian ibex was available (Fig. 11) which, though not so broad anteriorly as are the males, still lacks the characteristic keel of the specimens from pre-pottery Jericho. These, therefore, cannot be assigned to the beden, although this species is indigenous and has been found also in the Upper Palæolithic cave of Antelias in Lebanon (von Fritsch, 1893).

Are the Jericho goats wild bezoar? The second alternative is that our specimens belong to the true wild goat of western Asia, *Capra ægagrus*. This would imply that its former area of distribution included the hills of Judea, which is possible. A goat indistinguishable from the bezoar existed in the Upper Palæolithic of Lebanon, in the Cave of Antelias (Figs. 18–20). The subangular cross-section of the horn-core with its sharp anterior keel is unmistakable. A goat of the bezoar type was further recorded by Dorothea Bate (1937) from the Mugharet-el-Wad at Mount Carmel, but the specimen came from a disturbed deposit so that its age could not be ascertained.

Still more important is the presence of such a goat in the cave of El-Khiam, in a Natufian level. It was found by Neuville and identified by Vaufrey (1951). The fauna of El-Khiam comprises also a *Bos*, pig, *Equus mauritanicus*, gazelle and the Nilotic fox. The authors believe that the goat, ox and pig were domesticated, but the evidence is quite inconclusive. Of the pig, only a single foot bone was found, and of the ox a fragmentary juvenile mandible with milk teeth. These two could equally have been wild, especially as they are known as members of the original fauna of Palestine.

Of the goat, many bones were found, among them three small frontlets with horns showing sharp anterior edges. That they belong to the *ægagrus-hircus*-group is thus evident. That they were domesticated is possible but unproven.

The existence of *Capra ægagrus* at Antelias (Lebanon) where, being associated with Upper Palæolithic, they cannot have been domesticated, renders the occurrence of the wild bezoar in the Judean hills possible. There is, however, the biological difficulty that two so closely related species as the beden and the bezoar would inter-breed if they occurred together in the same area and at the same time. For what it is worth this argument pleads in favour of domestication of the goat in the Natufian of El-Khiam, but it is no proof.

[3] This lack of comparative material illustrates one of the difficulties of research on primitive domestication. Most zoological collections consist of large male specimens which the hunter coveted, whilst it is the females that are needed for comparison with domesticated stock. Archæologists would greatly assist their own cause if they collected skulls and long bones of identified and sexed wild and domesticated ruminants in their area of activities.

Were the Jericho goats domesticated? The question, therefore, has to be decided whether the Jericho goats are of the wild *ægagrus* or the domesticated *hircus* type. This is a matter of some difficulty where the potentially domesticated stock cannot but be closely similar to the wild stock.

From the measurements of horn cores there has nevertheless emerged a character of the Jericho specimens which may be regarded as suggestive of domestication. The males of the wild bezoar have horns with a somewhat quadrangular cross-section (Figs. 12, 13). The anterior keel is sharp, and its angle of the order of 45 degrees, sometimes less. The antero-external surface is flat, and frequently even concave, and there is usually a distinct angle separating it from the postero-external surface which is rounded and passes into the posterior edge, which is rounded or only indistinctly angular. The internal surface is similarly broken by a more or less distinct angle about half-way between the anterior and posterior edges. All horns of wild and pure-blooded bezoar which I have seen conform to this description, and the same applies to the Joura goat of Greece which was at one time believed to be a wild race.

The males of many scimitar-horned, as well as certain screw-horned, domesticated goats are distinguished from the bezoar by the tendency to rounding which makes the angularity of the external and internal surfaces disappear, though the anterior keel is maintained. The result is a more or less almond-shaped cross-section with a pronouncedly convex antero-external portion.

This change may be interpreted as a loss of a male characteristic which causes the horn of the buck to resemble an enlarged female horn, for the female goats have horns with an almond-shaped cross-section both in the wild and domesticated states (Figs. 16, 28).[4] The anterior keel has a tendency to be rounded off on the core (Fig. 15).

With this information at our disposal the bezoar-like specimens from the pre-pottery levels of Jericho can now be considered. Evidently, the female horns are inconclusive, except that their straightness confirms the bezoar affinities of the race. With their rounded anterior portion they are reminiscent of the wild females from the Cilician Taurus, though they are more slender (cross-section index 2.1, compared with 1.6). The specimens are described in the appendix.

The male core (Figs. 1, 6) is more distinctive. Its measurements will be found in the appendix, so that it suffices here to point out its characters. The horn itself must have been large, probably over 1 metre long. Enough

[4] One specimen from the Natural History Museum, South Kensington, is labelled *Capra picta*. This name applies, strictly speaking, to the wild goat of Antimilos in the Cyclades, but the locality of the specimen is Crete, the home of another wild race of the bezoar. In addition a female from the Cilician Taurus and one from an unknown locality belong to the wild form.

of the core is preserved to say that it was scimitar-shaped and not twisted. In its basal third it has a very elongate, almond-shaped cross-section, with an antero-posterior diameter greater than in any other goat I have been able to study, and at the same time very narrow. The index, antero-posterior diameter ÷ lateral thickness, is as high as 2.7. This flatness, and the disappearance of the angularity of the cores of wild bezoar are, however, characteristic of certain domesticated goats, notably the Bronze Age goats with twisted horns. Fig. 24 of the Bronze Age specimen from the Tell of Jericho, and Fig. 27 of a specimen from the Bronze Age of Pygades, Myrthou, Cyprus, excavated by Miss J. du Plat Taylor, illustrate this point.

It is not inconceivable that the Jericho goat is ancestral to these later breeds of the Fertile Crescent, though the material is insufficient to be regarded as conclusive.

To sum up, there are two points suggesting that the bezoar-like goat of the pre-pottery Neolithic of Jericho was domesticated. The first and more important is the cross-section of the male horn-core which is not known from any wild race of bezoar, but which agrees with that of the screw-horned Bronze Age goats of the same area. The second is that the co-existence in the same area of ibex and wild goat is in any case improbable. This conclusion may be subject to modification when more material becomes available, though in view of the fact that we are here confronted with the very earliest stages of domestication known, even " wild-looking " specimens may be nothing but domesticated ones in which changes have not yet become apparent. The step being from a wild type (which may be called the primitive) to a domesticated type with new characters (the advanced), the presence of the latter in any archæological deposit must decide the issue.

The goat of Bronze Age Jericho. The Neolithic domesticated goat with its scimitar-shaped horns was replaced by one with twisted horns early in the Bronze Age of the East. The most widely known example of the new breed is the so-called ram-in-the-thicket from Ur, which is a buck. Its horns are closely twisted, but more open spirals are common. It is remarkable how this goat appears, and possibly replaces the straight-horned, in the economy of the early Metal Age all over the Fertile Crescent and the eastern Mediterranean. In Cyprus, for instance, the Neolithic site of Khirokitia has the scimitar-goat (King, 1952), whilst the Bronze Age site of Pygades, recently excavated by Miss Joan du Plat Taylor and of which I have studied the fauna, contains the screw-horn goat (Fig. 5).

In Jericho, the screw-horn goat is known by a left horn-core from an early Bronze Age level of the tell. This specimen, described in the appendix, is a small but perfectly typical specimen with the characteristic narrow almond-shaped cross-section. In Figs. 4 and 5, it is confronted with a larger horn of the same type from Pygades, Cyprus, and comparable cross-sections are provided by Figs. 24 and 26.

Screw-horn goats, the origin of which will be discussed elsewhere,[5] eventually became the parent stock of most modern breeds, including the Mamber goat which is so abundant in Palestine. Many primitive screw-horn goats have survived, among them a Sicilian breed about which Amschler reported in *Antiquity* (1937), and which he named *Capra girgentana*. It must not be assumed, however, that all goats with twisted horns are descendants of the Bronze Age type of Jericho and Cyprus with its almond-shaped cross-section. Even the ancient Egyptian goat differs in this respect, the internal face of the core being flattened (Figs. 30, 31). The same is the case in modern " Nilotic goats " from the Sudan (Figs. 33, 34). The history of the goats with twisted horns, therefore, is more complex than is apparent at first sight. It will be interesting to see whether the type with almond-shaped cross-section, of Jericho and Cyprus, occurred elsewhere also. So far, the striking difference between the Jericho and ancient Egyptian types suggests different breeds. More material should be studied to investigate this matter further, especially since the dwarf goats from the Neolithic of Shaheinab, Sudan, excavated by A. J. Arkell (Nos. 25, 26, Figs. 32, 29) appear to represent these two different breeds, the more frequent one resembling the Egyptian.

Conclusion. Although the material so far available is scanty, it appears that the pre-pottery Neolithic occupants of the tell of Jericho possessed a domesticated goat with scimitar-horns closely resembling the wild bezoar of Asia Minor, but differing in the flattening of the core of the male. This feature links them with the screw-horned domestic breed of the Bronze Age of Jericho and Cyprus.

At the time of writing the scimitar goat is the only domesticated animal known with certainty from the pre-pottery Neolithic of Jericho.

My thanks are due to Père Fleisch, Université St. Joseph, Beirut, to the authorities of the British Museum (Natural History) and the Royal Veterinary College, and to Mrs. M. Jope (Belfast) who have permitted me to study material, and to the Central Research Fund of the University of London which has sponsored these studies. The excellent drawings, Figs. 1–5, were executed by Miss Marjorie M. Howard, F.Z.S., of the Institute of Archaeology.

[5] F. E. Zeuner, A History of Domesticated Animals. London (Hutchinson) (in preparation).

APPENDIX

The comparison of horn-cores is best based on the size and outline of the cross-section at the end of the basal third of the core, for this portion is nearly always preserved even in fragmentary specimens. If available, the cross-section at the end of the second third can be used in addition; it is narrower and, in true goats, more sharply keeled. The total length, lateral thickness and antero-posterior diameter, the curvature and the angle at the keel can be used also.

The twist of screw-horns may be described by the angle between the antero-posterior diameter at the base and at the end of the basal third; it is here called *angle of torsion.*

The following abbreviations have been used throughout the appendix:—

l. =length.
l. (pres.) =preserved length.
l. (tot.) =total length.
l. (est. tot.) =estimated total length.
b.a.p.d. =antero-posterior diameter at the base.
1/3 a.p.d. =antero-posterior diameter at the end of the basal third.
b.th. =basal lateral thickness.
1/3 th. =lateral thickness at the end of basal third.
c.-s. =cross-section.

A. Description of goat remains from prehistoric Jericho.

No. 1. (Figs. 1, 6). Male right horn-core, from Square E 1. Excavation record: Jp. E2: 22c. 14 Feb., 1953. Fifth phase below the level left by Professor Garstang. Fairly early pre-pottery Neolithic, though not the oldest. Reg. No. O.225.

L. (pres.) c.210 mm.; l. (est. tot.) 600 mm.; l. (tot.) of horn-sheath probably rather more than 1,000 mm.; greatest pres. a.p.d. 81·4 mm.; probable b.a.p.d. 89–90 mm. 1/3 a.p.d. 64 mm.; b.th. 35·2 mm. as measured, to which about 2 mm. have to be added to compensate for slight crushing; 1/3 th. 23·8 mm. (no evidence of crushing); c.-s. index 2·7.

The cross-section is almond-shaped and very slender and the index is the highest so far observed. Whatever view one might hold regarding other characters, this is not one found in the wild *C. ægagrus*, whose values range from 1·4 to 2·1, *i.e.*, they are much thicker. The lateral narrowness is combined with an exceptional antero-posterior diameter. This condition is not due to crushing of the specimen. A slight effect of this kind exists in the basal portion and allowance has been made for it as shown in the measurements. It will be interesting to see whether other horn-cores of this curious type will be found.

No. 2 (Figs. 2, 7). Right horn-core, probably female, from Square F 1. Excavation record: Jp. F8: 4a. 2 Feb., 1953. Fairly early pre-pottery Neolithic from a square near the east end of Trench I of the new excavation, the phase following the massacre level. Reg. No. O.229.

L. (pres.) c.145 mm.; l. (tot.) about the same; b.a.p.d. 34·8 mm.; 1/3 b.a.p.d. 32·3 mm.; near tip 16·7 mm.; b.th. as preserved 19·1 mm., but a small allowance has to be made for crushing; 1/3 th. as measured 13·0 mm., with allowance for crushing 15·8 mm.; c.-s. index 2·1.

The cross-section is irregularly oval, and the anterior edge rounded, as in the females of wild bezoar. The cross-sectional index being 2·1, the core is narrower than in most bezoar, and exhibits the same tendency as the large male. A small portion of the frontal and a portion of the brain cavity are preserved also.

No. 3. (Figs. 3, 8). Right horn-core, probably juvenile female, from Square F 1. Excavation record: Jp. F8: 4a. 2 Feb., 1953. Fairly early pre-pottery Neolithic from the phase following the massacre level. Reg. No. O.228.

PLATE VII

See captions p. 85.

L. (pres.) 72 mm.; l. (est. tot.) c. 90 mm.; b.a.p.d. 32·1 mm.; 1/3 a.p.d. 21·5 mm.; b.th. 14·1 mm.; 1/3 th. 11·3 mm., crushing negligible; c.-s. index 2·1.

The cross-section (Fig. 8) shows faint indications of the flattenings on the anterior sides, though the keel is rounded off. In view of this rounding, the specimen is regarded as a female, though the flattening might be interpreted as suggesting a male. In this case it was an immature animal. The cross-sectional index agrees with No. 2, and with Bronze Age goats.

No. 4. Frontlet with both cores, badly crushed, probably female goat, from Square F 1. Excavation record: Jp. F.4: 6. 18 March, 1952. Pre-pottery Neolithic, from the same square as Nos. O.228 and O.229. Reg. No. O.236.

This specimen was in a very fragile condition, owing to crushing by the pressure of sediments. No useful purpose would be served by giving measurements. In size, it agrees approximately with No. O.229.

Regarding its specific identity, it is likely to be a goat, the only other alternative being gazelle. But the distinctive depressions at the bases of the cores of gazelles cannot be seen. This was the first specimen to be found in the pre-pottery Neolithic of Jericho, but it is no longer of importance, since the 1953 season has produced conclusive evidence for the presence of domesticated goats.

No. 5. (Figs. 4, 24). Left horn-core, of unidentified sex, from Square G 1, collected in 1952. This square is now part of the east end of the long Trench I. Probably first half of Early Bronze Age. Reg. No. O.235.

L. (pres.) 95 mm.; l. (est. tot.) c. 160 mm.; b.a.p.d. 39·7 mm.; 1/3 a.p.d. 32·0 mm.; a.p.d. at distal fracture 24·0 mm.; b.th. 24·9 mm.; 1/3 th. 32·0 mm.; c.-s. index 2·3. Angle of torsion 70°.

The cross-section is almond-shaped and slender, the keel sharp.

B. List of Comparative Material Used.

Ba. Capra nubiana (Sinaitic or Nubian ibex)

No. 6. (Fig. 9). Male head, east of Aden. British Museum (Natural History). Reg. No. 99.11.6.87. C.-s. index 1·6.

No. 7. (Fig. 10). Male head, Red Sea Province. British Museum (Natural History). Reg. No. 10.1.24.2. C.-s. index 1·9.

No. 8. (Fig. 11). Head, probably female, North Africa (? Egypt). British Museum (Natural History). Reg. No. 49.10.2.1. C.-s. index 1·8.

Bb. Capra ægagrus (Wild bezoar or pasang).

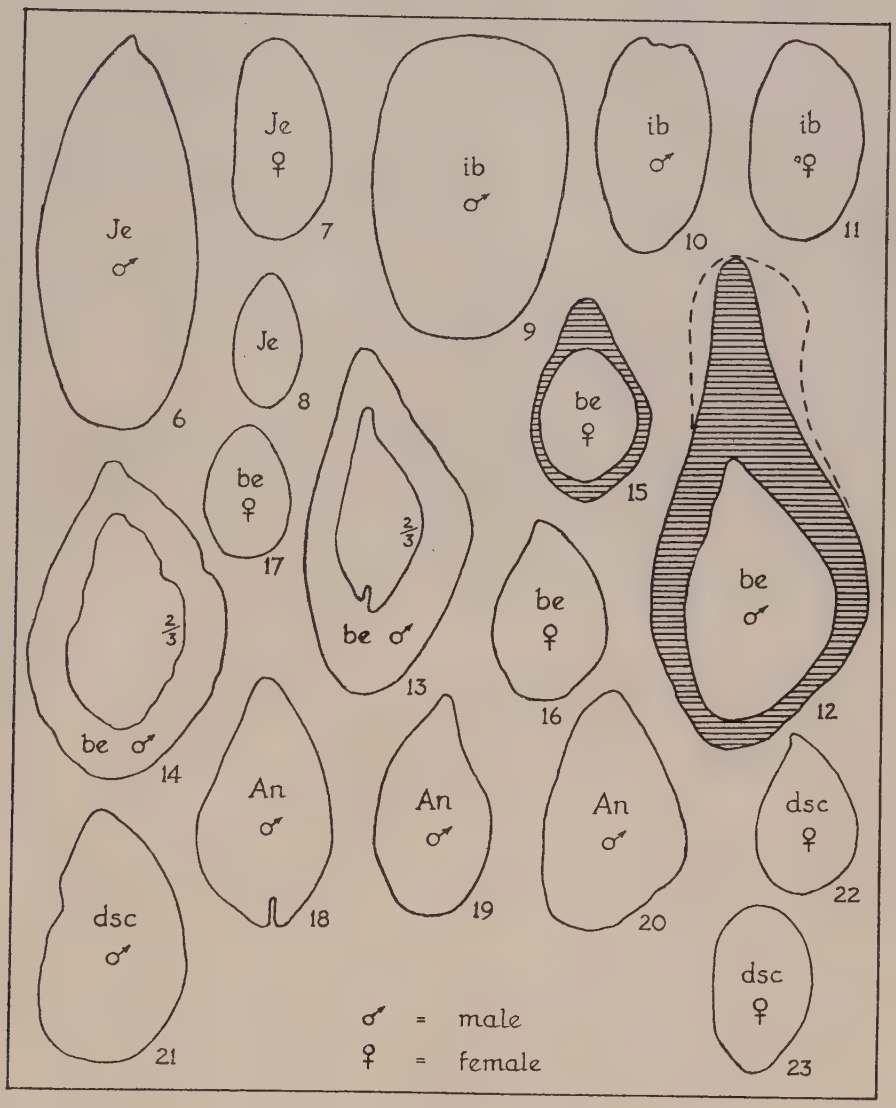
No. 9. (Fig. 12). Male skeleton, Cilician Taurus. British Museum (Natural History). Reg. No. 76.8.7.1. Left horn-core and horn studied. C.-s. index 1·7. It is figured with the outline of the horn on the core. The horn carries a knob at the end of the basal third, which is shown by the broken line. But close by the keel is sharper, as indicated.

No. 10. (Fig. 13). Male head, no locality. British Museum (Natural History). C.-s. index 2·1. Exceptionally narrow, with pronounced antero-external flattening. Cross-sections at the end of the basal and of the second third are both shown.

No. 11. (Fig. 14). Male head, no locality. Dep. of Environmental Archæology, No. O.223. C.-s. index 1·7. Exceptionally rounded on the antero-external side. Cross sections at the end of the basal and of the second third are both shown. Since without locality, the possibility of domesticated hybrid cannot be excluded.

No. 12. (Fig. 15). Female skeleton, Cilician Taurus. British Museum (Natural History). Reg. No. 76.8.7.2. Right horn studied, shown with outline of horn-core. C.-s. index 1·4.

PLATE VIII



See captions p. 85.

No. 13. (Fig. 16). Female skeleton, Crete, "*Capra picta.*" British Museum (Natural History). Reg. No. 74.3.27.2. C.-s. index 1·6. *Capra picta* is the wild goat from Antimilos, but the specimen is labelled as coming from Asia Minor. It has a distinct anterior keel.

No. 14. (Fig. 17). Female head, no locality. Dept. of Environmental Archæology. No. O.221. C.-s. index 1·6. Rounded anteriorly, like No. 10.

Bc. Capra ægagrus of Pleistocene age.

No. 15. (Fig. 18). Male left-core, fragmentary, from Antelias cave, near Beirut. Excavated by G. Zumoffen, Coll. Université Saint Joseph, Beirut. Upper Palæolithic.

Base missing, l. (pres.) c. 104 mm.; greatest pres. a.p.d. 41 mm., greatest pres. th. 22 mm. The figured cross-section is based on this lower end; c.-s. index 1·9.

Characterised by a sharp anterior keel and sub-quadrangular cross-section, with a deep furrow posteriorly as is often met with in goats. A typical bezoar; the name of *Capra primigenia* Fraas which has been given to the Antelias goat is thus a synonym of *C. ægagrus*.

No. 16. (Fig. 19). Male left-core, fragmentary, from Antelias cave, near Beirut. Excavated by G. Zumoffen, Coll. Université Saint Joseph, Beirut. Upper Palæolithic.

Base missing, l. (pres.) c. 80 mm.; greatest pres. a.p.d. 38 mm.; greatest pres. th. 18 mm. Figured section based on lower end of fragment; c.-s. index 2·0.

For remarks, see preceding specimen.

No. 17. (Fig. 20). Male right core, fragmentary, from Antelias cave, near Beirut. Excavated by G. Zumoffen, Coll. Université Saint Joseph, Beirut. Upper Palæolithic.

Base missing, l. (pres.) c. 94 mm., greatest pres. a.p.d. c. 39 mm.; greatest pres. th. 22·5 mm. (est.); c.-s. index 1·7. Figured cross-section is based on lower end of fragment.

For remarks see first Antelias specimen. It differs from the two preceding specimens in the blunter anterior keel and the absence of an antero-internal flattening. This may well be due to the fragment's position in the core, for close to the base such cross-sections are common in bezoar.

Bd. Screw-horn goats of Bronze Age.

No. 18. (Fig. 25). Pair of horn-cores, c. two-thirds preserved, from floor below the antler deposit of the late Bronze Age Sanctuary, Pygades, Myrthou, Cyprus. Period V, 13th century B.C. Coll. J. du Plat Taylor, B1 a, b: U21: 4 (11).

Left core: l. (pres.) 210 mm.; l. (est. tot.) 300 mm.

Right core: l. (pres.) 195 mm., with fragment of base attached; b.a.p.d. 60·4 mm.; 1/3 a.p.d. 41·0 mm.; b.th. 32·2 mm.; 1/3 th. 19·7 mm.; c.-s. index 2·1. Angle of torsion, 30°.

These horns were found lying on their anterior aspects, in the natural position indicating a steep rise (angle between axes or horns c. 40°). The skull was not preserved.

The horns being comparatively heavy, this individual may be regarded as a male.

No. 19. (Figs. 5, 26). Left horn-core, twisted, almost complete, probably male, from the late Bronze Age Sanctuary of Pygades, Myrthou, Cyprus. Period VI, 13th century B.C. Coll. J. du Plat Taylor, B.2; U22: 3 (2).

L. (pres.) c. 200 mm.; l. (est. tot.) c. 250 mm.; b.a.p.d. 62·2 mm.; 1/3 a.p.d. 44·6 mm.; b.th. 35·2 mm.; 1/3 th. 24·4 mm.; c.-s. index 1·8. Angle of torsion, 35°.

No. 20. (Fig. 27). Right horn-core, twisted, fragmentary, probably male, from late Bronze Age Sanctuary of Pygades, Myrthou, Cyprus. Period VI. Coll. J. du Plat Taylor, B3: U22: 3 (2). 13th century B.C.

L. (pres.) 155 mm.; l. (est. tot.) c. 230 mm.; 1/3 a.p.d. (est.) 44·2 mm.; 1/3 th. 22·0 mm.; c.-s. index 2·0.

Angle of torsion not measurable, since base missing, though similar to that of the better preserved specimen from Pygades.

No. 21. (Fig. 28). Left horn-core, twisted, fragmentary, from late Bronze Age Sanctuary of Pygades, Myrthou, Cyprus, Period VI, 13th century B.C. Coll. J. du Plat Taylor. Reg. No. B4: U22: 3 (2).

Same size and twist as B3: U22: 3 (2).

L. (pres.) 160 mm.; l. (tot. est.) c. 230 mm.; 1/3 a.p.d. 41·2 mm.; 1/3 th. 23·3 mm. c.-s. index 1·8.

No. 22. Frontlet with posterior portions of horn-cores, from late Bronze Age Sanctuary of Pygades, Myrthou, Cyprus, Period VI, 13th century B.C. Coll. J. du Plat Taylor. Reg. No. B1: U22: 1 (2).

Larger horns than the two preceding (basal thickness over 390 mm.), but since anterior portions with keels are missing, no measurements can be taken. The horns rise steeply; the stumps are too short to estimate the twist.

No. 23. (Fig. 30). Cranium with cores, complete, with remnants of right horn, from ancient Egypt. No precise data, coll. by W. Flinders-Petrie. British Museum (Natura' History), G.1=D.6.

L. (horn) c. 300 mm.; l. (right core) c. 220 mm.; b.a.p.d. 44·4 mm.; 1/3 a.p.d. 35·1 mm.; b.th. 28·5 mm.; 1/3 th. 19·6 mm.; c.-s. index 1·8. Angle of torsion 20°.

The cores are keeled almost from the base. In cross-section they differ considerably from the Bronze Age specimens of Jericho and Pygades, their internal surfaces being flat. Although twisted, these cores have preserved more of the *ægagrus*-cross-section than the scimitar-horned goat of Jericho. It is not admissible to base conclusions on our scanty material, but the possibility of a polyphyletic origin of goats with twisted horns will have to be considered with care.

No. 24. (Fig. 31). Cranium with horn-cores, right core almost complete, probably female, from ancient Egypt. No precise data, coll. by W. Flinders-Petrie. British Museum (Natural History), G.3.

Right core, l. (pres.) 145 mm.; l. (est. tot.) c. 160 mm. Smaller than specimen No. 23; b.a.p.d. 33·9 mm.; 1/3 a.p.d. 28·1 mm.; b.th. 23·4 mm.; 1/3 th. 17·0 mm.; c.-s. index 1·7. Angle of torsion 26°.

The keel becomes sharp at about two-sixths from the base, the cross-section at the end of the basal third therefore being more rounded. This suggests a female as in No. 23. The cross-section is very asymmetrical, and flattened on the inner side. For remarks, see No. 23.

No. 25. (Fig. 32). Right horn-core of dwarf domestic goat from Esh-Shaheinab, Sudan. Neolithic. D. M. A. Bate, in A. J. Arkell, 1953, p. 15, Fig. 3.

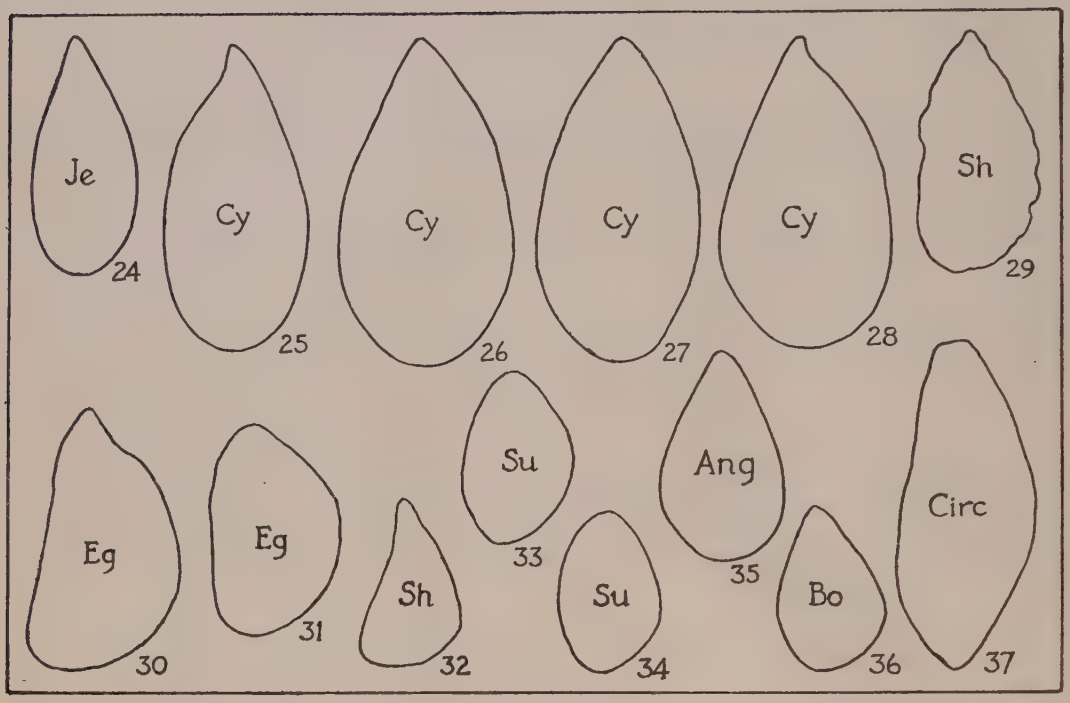
Right core, l. (pres.) 68 mm.; l. (est. tot.) 90 mm.; a.p.d. at about one half from base 22·5 mm.; 1/2 th. 12·7 mm.; c.-s. index 1·8.

This is one of ten horn-cores obtained by Mr. Arkell from his excavation at Shaheinab. Miss Bate compared it with the dwarf Nilotic goats Nos. 28 and 29, to which they are as closely related as Nos. 23 and 24 from ancient Egypt. The Shaheinab goat is, in fact, merely a small form of the Egyptian screw-horn goat. The sharp keel of the Shaheinab specimen is due to the position of the cross-section at 1/2 from the base. At the end of the basal third it would have been blunter, as shown by Miss Bate's figure.

The age of this site was determined by radiocarbon analysis as approximately 3300 B.C. It is not admissible to argue in favour of a much earlier date, as Mr. Arkell is doing, for reasons which will be set out elsewhere. This Sudan Neolithic therefore is chronologically near enough to the Chalcolithic of Palestine and Egypt for its domesticated goat to be part of the animal stock that reached Egypt from the east about that time.

It is, however, noteworthy that this form differs from that of Jericho and resembles the bezoar rather than the Neolithic and Bronze Age goats in its cross-section.

PLATE IX



See captions p. 86.

No. 26. (Fig. 29). Distal fragment of a horn-core from Esh-Shaheinab, Sudan. Neolithic. D. M. A. Bate, in A. J. Arkell, 1953, p. 16, Fig. 4.

One of two cores, twisted, l. (pres.) 58 mm.; a.p.d. where measured by Miss Bate 32·3 mm.; th. 16·5 mm.; c.-s. index 2·0.

The cross-section is but slightly asymmetrical and resembles the almond-shaped group of Jericho and Cyprus. It is conceivable, therefore, that the Jericho Bronze Age goat had reached the Sudan by the latter half of the fourth millennium.

Be. Capra "hircus" (Recent domesticated goats).

No. 27. (Fig. 21). Male skull with horns, feral goat from Ponta Delgada, Azores. British Museum (Natural History) G.18.

Left horn, scimitar-shaped, l. c.570 mm.

Left core, l. c.330 mm.; b.a.p.d. 52·4 mm.; 1/3 a.p.d. 39·6 mm.; b.th. 42·4 mm.; 1/3 th. 24·5 mm.; c.-s. index 1·6. Angle of torsion 50°.

The cross-section resembles closely that of No. 14, the provenance of which is unfortunately not known, and which may not be a pure *C. ægagrus*. More material will have to be studied to decide whether cross-sections of this type occur among truly wild bezoar. On the other hand, the Azores goat was definitely introduced by man into islands not previously inhabited by goats. It thus represents an example of the feral goat which has either retained, or reverted to, primitive characters.

No. 28. (Fig. 22). Female skull and skeleton of a British specimen, " White Queen." British Museum (Natural History) G.8.

Right horn core, l. 156 mm.; b.a.p.d. 37 mm.; 1/3 a.p.d. 25·6 mm.; 1/3 b.th. 17 mm.; c.-s. index 1·5.

This female resembles the wild female No. 13 from Crete. The horns have almost no twist, and there is a distinct anterior keel, which is missing in other wild bezoar. It is thus evident that female scimitar cores, no matter whether the anterior keel is present or not, are of no use in the determination of the wild or domesticated status of a goat.

No. 29. (Fig. 23). Right horn-core of female (probably), perfectly straight scimitar, from Thetford, England. 9th–10th century A.D. Coll. M. Jope, Oxford.

Right core, some carving near base, therefore l. (est. tot.) c. 195 mm.; b.a.p.d. c. 32 mm. (part missing); 1/3 a.p.d. 27·1 mm.; b.th. 23·0 mm.; 1/3 th. 15·3 mm. as measured + 1 mm. allowance for wear = 16·3 mm.; c.-s. index 1·7.

This medieval goat belongs to the bezoar group. The core is flat on the inner side, and rounded anteriorly in the proximal two thirds. An indistinct keel may be regarded as present near the tip, but here the posterior edge is more keeled than the anterior. This feature manifests itself in the proximal portion also, though in a different way, the maximum thickness being closer to the anterior than to the posterior side (Fig. 23).

The core was used as a tool, and shallow depressions due to wear or carving are present in several places. They can easily be " bridged," however, and measurements adjusted accordingly.

It would be premature to assign this form to any particular breed, though it proves that a scimitar goat was bred in the pre-Norman period in East Anglia. It will be worth while to compare it with the surviving scimitar goats of Scandinavia.

No. 30. (Fig. 35). Male skull with horns, of an Angora goat from Constantinople. British Museum (Natural History) G.10.

Left horn, l. c.350 mm.

Left core (tip broken), l. c.220 mm.; b.a.p.d. 37·9 mm.; 1/3 a.p.d. 28·1 mm.; b.th. 26·0 mm.; 1/3 th. 16·5 mm.; c.-s. index 1·7. Angle of torsion 42°.

The regular, almond-shaped cross-section is somewhat reminiscent of the Bronze Age goat from Jericho and Cyprus. This deserves further investigation since this Bronze Age stock may be related to the Angora goat, which appears to have been known in Mesopotamia. It is shown on the plaque of Ur-Enlil, for instance.

No. 31. (Fig. 33). Skull and skeleton of dwarf Nilotic goat from Juba, Sudan. Not sexed. British Museum (Natural History), 1950. 2.22.3.

Right horn, l. 142 mm.

Right core, l. (tot.) 88 mm.; b.a.p.d. 27·8 mm.; 1/3 a.p.d. 22·1 mm.; b.th. 20·0 mm.; 1/3 th. 14·6 mm.; c.-s. index 1·5. Angle of torsion 28°.

The twisted cores have a keel in the distal third only. The cross-section is very asymmetrical, resembling that of Nos. 23 and 24 from ancient Egypt. It also resembles the dwarf goat from the Neolithic of Shaheinab (Sudan), No. 25.

No. 32. (Fig. 34). Skull and skeleton of dwarf Nilotic goat from Malakal, Sudan. Not sexed. British Museum (Natural History) 1950, 2.22.2. Probably female.

Right horn, l. 111 mm.

Right core, l. (tot.) 83·3 mm.; b.a.p.d. 27·2 mm.; 1/3 a.p.d. 21·0 mm.; b.th. 20·7 mm.; 1/3 th. 14·0 mm.; c.-s. index 1·5. Angle of torsion 27°.

The frontals are unusually bulging and the cores rounded anteriorly, except in the distal third.

No. 33. (Fig. 36). Stuffed female goat from Borneo. British Museum (Natural History) G.13.

Left horn twisted, l. 165 mm.

Left core, l. (tot.) 120 mm.; b.a.p.d. 28·7 mm.; 1/3 a.p.d. 22·3 mm.; b.th. 20·4 mm.; 1/3 th. 14·1 mm.; c.-s. index 1·6. Angle of torsion 22°.

The core section resembles greatly that of the wild bezoar, the angularity being preserved. The keel is sharp almost from the base. The horn is twisted much as in the Nilotic dwarf goat.

No. 34. (Fig. 37). Male skull with horns. Circassian goat from Turkey, coll. S. S. Flower, 1904. British Museum (Natural History) G.15.

Right core, l. (tot.) c. 230 mm., b.a.p.d. 46·8 mm.; 1/3 a.p.d. 43·3 mm.; b.th. 31·7 mm.; 1/3 th. 19·6 mm.; c.-s. index 2·2. Angle of torsion 17°.

The Circassian goat has a pair of almost vertical horns with perverted twist (the left horn being twisted anti-clockwise). Its peculiar core-section, blunt in front, keeled posteriorly, reveals that it is not related to the ordinary goats. It came from the north-east by way of Turkey and reached Egypt with the Turkish conquest. Antonius and others hold that it is descended from the Markhor, and not from the Bezoar.

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In Professor F. E. Zeuner's paper entitled " The Neolithic-Bronze Age Gap on the Tell of Jericho " in the May/October 1954 number an unfortunate printer's error has been overlooked. On page 67, line 12 from the bottom, instead of 1700 years it should read 1400 years.

CAPTIONS TO ILLUSTRATIONS

PLATE VII, FIGS. 1–5. NEOLITHIC AND BRONZE AGE GOATS FROM JERICHO AND CYPRUS: 1A, B, MALE RIGHT HORN-CORE NO. 1, PRE-POTTERY NEOLITHIC, JERICHO; 2A, B, RIGHT HORN-CORE, PROBABLY FEMALE, NO. 2, PRE-POTTERY NEOLITHIC, JERICHO; 3A, B, RIGHT HORN-CORE, PROBABLY JUVENILE FEMALE, NO. 3, PRE-POTTERY NEOLITHIC, JERICHO; 4A, B, LEFT HORN-CORE, NO. 5, EARLY BRONZE AGE, JERICHO; 5A, B, LEFT HORN-CORE, PROBABLY MALE, NO. 19, FROM LATE BRONZE AGE OF PYGADES, CYPRUS.

ALL FIGURES ONE-QUARTER OF NATURAL SIZE.

PLATE VIII, FIGS. 6–23. CROSS-SECTIONS OF RIGHT HORN-CORES OF SCIMITAR GOATS AT THE END OF THE BASAL THIRD OF THE CORE (UNLESS STATED OTHERWISE). EXACTLY 0·82 × NATURAL SIZE.

FIGS. 6–8. PRE-POTTERY NEOLITHIC, JERICHO: FIG. 6, MALE NO. 1; FIG. 7, FEMALE NO. 2; FIG. 8, JUVENILE NO. 3.

FIGS. 9–11. SINAITIC IBEX (*Capra nubiana*), RECENT: FIG. 9, MALE NO. 6, FROM ADEN; FIG. 10, MALE NO. 7, FROM RED SEA PROVINCE; FIG. 11, PROBABLY FEMALE, NO. 8, FROM "NORTH AFRICA".

FIGS. 12–17. WILD BEZOAR OR PASANG (*Capra ægagrus*), RECENT: FIG. 12, MALE NO. 9, FROM CILICIAN TAURUS, WITH OUTLINE OF HORN ON CORE, AND OF A KNOB ON THE HORN; FIG. 13, MALE NO. 10, NO LOC., WITH CROSS-SECTION AT END OF SECOND THIRD INSERTED, SHOWING HOW THE KEEL BECOMES SHARPER DISTALLY; FIG. 14, MALE NO. 11, NO LOC., WITH CROSS-SECTION AT END OF SECOND THIRD INSERTED; FIG. 15, FEMALE NO. 12, CILICIAN TAURUS, WITH OUTLINE OF HORN ON CORE; FIG. 16, FEMALE, NO. 13, FROM CRETE; FIG. 17, FEMALE NO. 14, NO LOC.

FIGS. 18–20. WILD BEZOAR, UPPER PALAEOLITHIC OF ANTELIAS CAVE NEAR BEIRUT, LEBANON; FIG. 18, MALE NO. 15; FIG. 19, MALE NO. 16; FIG. 20, MALE NO. 17.

FIGS. 21–23. DOMESTICATED SCIMITAR GOATS: FIG. 21, FERAL MALE NO. 27, FROM AZORES; FIG. 22, FEMALE NO. 28, BRITISH; FIG. 23, PROBABLY FEMALE, NO. 29, PRE-NORMAN, THETFORD, ENGLAND.

PLATE IX, FIGS. 24–37. CROSS-SECTIONS OF RIGHT HORN-CORES OF GOATS WITH TWISTED HORNS, AT THE END OF THE BASAL THIRD OF THE CORE (UNLESS OTHERWISE STATED). ALL NATURAL SIZE.

NOTE THAT THERE ARE THREE GROUPS, ONE RESEMBLING THE NEOLITHIC GOAT OF JERICHO (FIGS. 24–29), A SECOND WITH BEZOAR CHARACTERS (FIGS. 30–36), AND A THIRD WHICH IS ABERRANT (FIG. 37).

FIG. 24. SEX UNIDENTIFIED, No. 5, EARLY BRONZE AGE, JERICHO.

FIGS. 25–28. LATE BRONZE AGE, PYGADHES, CYPRUS: FIG. 25, No. 18; FIG. 26, No. 19 (SEE ALSO FIG. 5); FIG. 27, No. 20; FIG. 28, No. 21.

FIG. 29. DISTAL FRAGMENT, NOT AT END OF BASAL THIRD, No. 26, NEOLITHIC FROM ESH-SHAHEINAB, SUDAN.

FIGS. 30, 31. "ANCIENT EGYPTIAN": FIG. 30, MALE No. 23; FIG. 31, PROBABLY FEMALE, No. 24.

FIG. 32. DWARF DOMESTIC GOAT, No. 25, NEOLITHIC, ESH-SHAHEINAB, SUDAN. SECTION APPROXIMATELY HALF-WAY BETWEEN BASE AND TIP, HENCE KEEL SHARPER.

FIGS. 33, 34. DWARF DOMESTIC GOAT, RECENT, SUDAN: FIG. 33, No. 31; FIG. 34, No. 32.

FIG. 35. MALE ANGORA GOAT FROM TURKEY, No. 30.

FIG. 36. FEMALE GOAT FROM BORNEO, No. 33.

FIG. 37. MALE CIRCASSIAN GOAT FROM TURKEY, No. 34.

ANCIENT FORESTS IN PALESTINE: SOME ARCHÆOLOGICAL INDICATIONS

By B. S. J. Isserlin

The presence of woodlands in ancient Palestine in districts now largely, or even entirely, bereft of tree growth has long attracted attention. A work like G. Dalman's " Orte und Wege Jesu " repeatedly refers to indications in texts of both ancient and medieval date which point in this direction. The hills of Judea and Galilee, and in the coastal belt the Sharon region are among the parts of the country specially concerned in this connection.

There are, in addition to the statements in early writers, certain archæological data which may help to add to our information about the extent of ancient Palestinian forests, and about the progress of disafforestation. These include, firstly, remains of a botanical nature. Thus at Gezer ancient tree growth in the vicinity seems attested by the acorns and terebinth seeds found in the town debris[1]. Similarly an oak tree was discovered on the ancient tell of Megiddo—where nowadays there is hardly a tree within view on the bare ridge[2].

A second source of information is offered by the finds of the remains of animals whose natural habitat is in woodlands or forests. Leaving out of consideration such early materials as were discovered, *e.g.*, in the Carmel caves we can bring some data from the time of the Bronze Age and later. Thus a tooth of the wild boar is reported to have been found at Gezer in Cave 15 I (Early Bronze Age)[3]. But particularly interesting is the occurrence of deer antlers in a number of localities. Examples can be given from Gezer, Caves 15 I and 28 II [4], and the Water Passage [5]; from Beth Shemesh [6]; from Megiddo[7]; from Ta'annek[8]; from Beth Shan[9] and from Jericho[10]. The animals concerned may sometimes have come from nearby groves; but the places referred to almost surround the central hilly spine of the country, which we know from our texts to have been partly under tree cover, and the occurrence of the finds in settlements nearby would not be surprising.

[1] R. A. S. Macalister, Excavation of Gezer, II, p. 23.

[2] G. Schumacher, T. el Mutesellim, I, p. 87.

[3] R. A. S. Macalister, *op. cit.* I, p. 92.

[4] R. A. S. Macalister, *op. cit.* I, pp. 92, 125.

[5] R. A. S. Macalister, *op. cit.*, I, p. 265.

[6] Cp., *e.g.*, E. Grant, Ain Shems Excavations, I, p. 69 and pl. XI.

[7] G. Schumacher, *op. cit.*, p. 82, fig. 114, and p. 87 *cp.* Loud., Megiddo II, p. 139 (D. Bate).

[8] E. Sellin, T. Ta'annek, p. 94.

[9] A. Rowe, Topography and History of Beth-Shan, p. 23; Museum Journal XVIII, 1927, p. 434.

[10] E. Sellin und C. Watzinger, Jericho, pp. 74, 155.

It is in the hill region in particular that the archæological evidence also throws a little light on the progress of forest clearance. Thus at Tell Beit Mirsim[11] and at T. ed Duweir[12] the ground seems to have been cleared before the Early Bronze Age. On the other hand at T. el Ful to the north of Jerusalem cypress and pine trees seem still to have been at hand when the Early Iron Age fort was constructed[13]. Later, however, in the time of the Jewish monarchy almond trees were used to provide the necessary wood for beams: this surely means that proper timber was not now easily available in the neighbourhood. Here, then, the process of disafforestation can be dated within a limited period.

The gradual loss of the ancient tree cover is of course a feature common to many Mediterranean countries. In the vicinity of Palestine, Phœnicia is no longer the forest reserve she used to be; further north in Mesopotamia the variety of trees attested at early T. Brak can not now be matched in the neighbourhood[14]. Similarly the regions of northern Syria where herds of elephants were to be found even in the first millennium must, in view of the life habits of those animals, have presented a very different appearance from their present bareness[15]. All told, the Merikare texts of dyn. IX or X which describe Asia as a land troubled by water and made inaccessible by many trees must have been much more applicable to Palestine and the neighbour countries at the time of the early Pharaohs than now. We must of course remember that forests may well have impressed the ancient Egyptians somewhat disproportionately for they did not know them in their own country.

[11] W. F. Albright, AASOR XVII, p. 12.
[12] J. L. Starkey, PEFQ 1935, p. 198.
[13] W. F. Albright, AASOR IV, p. 7.
[14] M. E. L. Mallowan, Iraq IX, 1947, p. 15.
[15] I have to thank Dr. Schaeffer for drawing my attention to this fact.

A CYLINDER-SEAL IMPRESSION FROM MOUNT GILBOA

By Nehemia Zori

The hill El-Karm is situated on the northern edge of Mount Gilboa, 132·1 m. above sea level and 160 m. above the level of the Valley of Jezreel (grid references 1844 2162). It is a northern spur of the main Gilboa range and covers an area of *ca.* 35 dunams. It overlooks Beth Shan and the mountains of Gilead to the east, Megiddo and Carmel to the west, Mount Tabor, Upper Galilee and Hermon towards the north. The place also commands a view of the whole valley of Jezreel below and dominates the main roads. Water is available from three sources: Ain Jalud to the west, Ain Nuris to the south and Nahr el Jalud to the north. Traces of two ancient roads are visible: an eastern one from Beth Shan, and a western one from Megiddo and Jezreel (Zerin).

The site has not been mentioned by any traveller and it is not marked on the PEF map. However, on the summit and slopes of the hill flint tools of Palaeolithic, Mesolithic, Chalcolithic and Early Bronze types have been collected (Pl. XI: 9, 12, 13), besides pottery.

This pottery includes chalcolithic types with raised scalloped bands and rope mouldings (Pl. XI: 5, 6, 7, 8) typical of the Middle and Late Chalcolithic from Beth Shan and Teleilat Ghassul and the Énéolithique Supérieur of Tell Fara'ah.[1] An animal head (Pl. XI: 13) can be paralleled at T. Ghassul.[2] The Upper Chalcolithic is represented by plentiful sherds of grey burnished ware as found at Megiddo, Affuleh and elsewhere.[3] Sherds attributable to Early Bronze I–II (Pl. XI: 1, 2, 3, 4) come from plates with inverted rim, rims of large jars[4] and include specimens with Saaneh–Mekhlediyeh " Band Slip " decoration, besides a hole-mouth jar with incised decoration.[5]

Among the sherds there is one showing a cylinder seal impression (Pl. X). This sherd is apparently from the neck of a large bowl, the lower part of which is missing. The height of the fragmentary impression is 1·8–2 cms., so the cylinder from which it came must have been comparatively broad. It was probably made of wood, which would account for the rather flat impression made. The design appears to include men and animals with uplifted heads in procession. No exact parallels seem to exist among Palestinian seals from Megiddo and elsewhere, but the imprint recalls

[1] *Museum Journal*, XXIV, 1935, pl. I; *R.B.*, LIV, 1947, p. 402, Fig. 2, 5, pl. XV: 1, 23.

[2] *T.G.*, p. 86, fig. 36: 2, 8.

[3] *S.A.O.C.* 10, p. 17, fig. 6: 17A; *J.P.O.S.*, XXI, pl. II, 8.

[4] Megiddo II, pl. 4–6; *R.B.*, LIV, 1947, fig. 3: 10.

[5] *B.A.S.O.R.*, 101, pp. 3–20, *A.A.S.O.R.* XXV–XXVIII, p. 458, fig. 43, 133, 134.

similar flat impressions from Byblos, level XXXVII[6] besides examples from Persia, proto-elamite " époque archaique "[7]

Iron I is well represented by sherds of carinated bowls of types met at Megiddo, T. Beit Mirsim, and T. Qasileh.[8]

In the light of the site's dominant situation and in view of the existence of remains from Chalcolithic, Early Bronze and Iron I we may conclude that el Karm was a flourishing settlement at these periods. The presence of an Iron Age settlement here is perhaps of interest in connection with the description of the battle fought by Gideon (Judges, ch. VII, v. 1). " And they encamped by En-Harod." The impression here arises that the Israelite camp was on hilly ground and not in the valley, just as the Israelites held sway in general in the hills rather than in the plain. There appear to be no remnants either of the Bronze or Iron Age near En-Harod, and it is perhaps not impossible that Gideon camped near el Karm with its Iron Age settlement, the strategic position of which has been pointed out above.

[6] M. Dunand, Byblos, p. 383, pl. CXXXIII, no. 5684.

[7] Delaporte, Cylindres Orientaux, p. 27, pl. 43: 6, 7 (S 331).

[8] *A.A.S.O.R.*, XII, pl. 50: 8; *I.E.J.*, vol. I, p. 134, fig. 4: 6; fig. 6: 8.

Cylinder-Seal Impression.

Pottery from Mt. Gilboa.

REVIEWS AND NOTICES

The Brooklyn Museum Aramaic Papyri. New documents of the fifth century B.C. *from the Jewish colony at Elephantine, edited with a historical introduction by* Emil G. Kraeling. (Yale University Press, New Haven; 1953. Pp. xv, 319 and plates I-XXIII; price, $10.00.)

The documents here published have lain unnoticed for more than half a century. They belong to the same collection as those bought by Prof. Sayce in 1903 and by Lady William Cecil and Sir Robert Mond in 1904 and as those found by Dr. O. Rubenstein by excavation in the same year; they were bought by the American Egyptologist Mr. C. E. Wilbour in 1893 but laid aside, neglected. They passed after his death in 1896 to his daughter, who kept them as she had received them and left them, unrecognized, with other antiquities after her death in 1947 to the Brooklyn Museum. They consist of 12 perfect or nearly perfect texts and fragments of five others; and they deal almost exclusively with the affairs of one Anani or Ananiah, son of Azariah, a *lḥn* of the God *Yhw* in Yeb (Elephantine), and his family, who with several of the persons named in these new documents are already known from the previous collections in which they are mentioned. The dates run from July 451 B.C. to December 402 B.C.; and one or two of the fragments may belong to 401 or 400 B.C.

The present edition contains an elaborate introduction on the history of these and the other documents of the same period, followed by the texts themselves. Each is preceded by a brief summary of the contents; then comes the text in square Hebrew script and a translation agreeing with it line for line on the opposite page, followed by a philological commentary; finally there is a complete index of proper names and glossary of Aramaic words. The photographs, though not taken by the infra-red process, are beautifully reproduced and leave nothing to be desired.

The translation is careful and accurate, and the editor very rarely fails to seize the exact sense. The following notes are offered in the hope of correcting the reading or translation where occasionally he has missed it or of clearing up some of the few points which he has overlooked in the commentary.

Aramaic Notes.

I 1 and XIV 1; .. ••••בשנת[.

The addition of the preposition is unnecessary and contrary to the prevailing usage of these documents.

I 11: בברכנ֯ר.

In this name the first element is evidently the common Sem. כבר "great, glorious," which appears in the Ass. *Kabar-ilu* "the god is great" and similar names (Tallqvist "Ass. Pers. N." 109). The second element is obscure; may it be כנתר? This may then perhaps be identified with the Iran. *Kantīr*, a royal name (Justi *Iran. Namenb.* 155).

II 7 and VII 21: יקום ••• בעדה (cp. Cowley "A.P." **15** 26).

The force of "he rises behind her" is "he finds fault with" or "accuses her." This idiom is almost *gemeinsemitisch;* it is the Bab. *ina arki . . . šasû* "to call out behind" = "to accuse" a person (Chiera "J.E.N." II **197** 16 and "E.N." I **99** 19) and the post-Biblical Heb. . . . רגן אחרי "spoke ill of" a person (Targ. J. *Bēr.* IX 14b), and it has been recognized in the Bibl. Heb. . . . מצא אחרי = Syr. *'eškaḥ bāṯar* . . . "found fault with" a person or thing (Eccl. vii 17; s. Burkitt in "J.T.S." XXIII 24). The underlying idea is the same as that in the Engl. "backbiting," which means speaking ill of a person behind his or her back.

III 4: תרבצא.

Since the noun is in the emph. state (for ה֫ stands for א֫ as often in these texts), it ought perhaps to be translated "the court" rather than "a court."

III 17: זין וזבב.

This spelling of דין ודבב with a sibilant ז instead of the correct dental ד is interesting evidence of spirantization in the 5th century B.C.; and it will account for such forms as יזניה beside ידניה (s. Cowley "A.P." 289–90) and בנזסרם beside בנדסירם (Driver "A.D." **8** 1 **9** 1 **10** 1 as compared with **11** 1). It is found also in Neo-Babylonian texts, in which forms like *lidqi* for *lišqi* begin to appear, showing that *d* has come to be pronounced *ṣ* and can therefore be used for *š* or be represented by ז (s. Driver "S.W.P.A." 226, 232).

III 22: או ברה לה יתה

The meaning is "or daughter of hers, (even) her," for יתה seems to be added to ensure that full notice is taken of the pronominal suffix. There are a few instances of a similar use of את to resume prepositions in the O.T. (*e.g.* Ezek. xxxvii 19 Zech. xii 10; cp. Jer. xxxviii 9 Ezek. xiv 22); and the present example, being to all intents and purposes an autograph, is a timely warning against hasty emendation of the Biblical text.

III 25: ליהו.

Although the photograph seems to show a trace of a final *w*, agreeing with the usage not only of this document but also of all the others in the present collection, the editor writes that "there is no trace of ink after ליהו, and in view of the spacing of the letters I doubt that a normally written ו could have stood there. The ה has quite a long stroke to the left." This note, therefore, settles the question.

IV 18–19: המו שליטן בחלקי אחרנא.

This means not that "they shall have power over my share afterwards" but that "they shall have power over my other share"; for the adjectival אחרנא, standing in the emphatic state, qualifies the preceding noun. The donor is distinguishing the share of the property which he intends to keep for himself (l. 9) from that which he is giving to his wife (ll. 2–9).

V 9: שביקא מן טלא לסמשא

The precise force of this expression is not "freed before the sun" but "freed absolutely (?) for the sun"; the slave-girl is set free by a fictitious gift or sale to the sun-god. This custom is found both at Babylon (Schorr *U.ab.Z.-Pr.* **25** 1–6, where a slave-girl who is being manumitted is given to Šamaš the sun-god and Aya his consort as a step preliminary to her adoption by the manumittors; s. Driver & Miles "Babylonian Laws" I 229–30) and in Greece (s. Mitteis's *Reichsrecht u. Volksrecht* 374-6).

The orthography of סמשא for שמשא, though common enough in transliterations of names from the Assyrian dialects (s. Delaporte *Épigr. Aram.* 16–7), here perhaps is due to a desire to avoid the occurrence of *š* twice in the same word; so Acc. *šamšu* = Heb. *šemeš* becomes Arab. *šamsu(n)* and Acc. *šuršu* = Heb. *šōreš* becomes Arab. *šursu(n)* "root" (s. Brockelmann *G.V.G.S.S.* I § 85 a α, e β).

The meaning of מן טלא "absolutely (?)" is analogous to that of לטלא "exactly, all right," whatever the precise explanation of the mysterious טלא may be (s. Driver "A.D." 36).

V 18: ספר מרחק.

The ספר מרחק "dead of renunciation" must be something similar to the *ṭuppi lâ ragāmim* of Old-Babylonian law; this was an undertaking to treat the agreement as binding and not to bring any future claim against it (s. San Nicolò *Schlussklauseln* 39–75; cp. 174[87]).

VII 7–8: גמירה | זי קמר חדת ··· חטיב צבע ידין

The principal noun must be read גמידה and not גמירה; for it is obviously the same word as (*ṣubat*)*gammidatu*(*n*), the name of a garment mentioned on several Neo-Babylonian tablets (Contenau *T.C.L.* IX **117** 10 and Doughty *Goucher* II **350** 10 **361** 5 **394** 14) but of which nothing is known; its name may perhaps be connected with גמד as found in נמטא גמדיא דנרש "hard" or "shrunk mattress of Narash," the name of an article manufactured in the place of that name (Meissner in *M.Ao.G.* XI i/ii 18), a Babylonian town situated on a canal in an unknown locality (Neubauer *Géographie du Talmud* 365). The initial cuneiform sign of the Babylonian and the final letter of the Aramaic word are alike ambiguous, but the combination here made establishes the true reading of both words. Since then גמידה is feminine, the final ה is not the emphatic termination; if therefore חדת and חטיב are taken with it, there must be a lapse of congruence due to the intervening words (s. Driver in "J.R.A.S." LXXV [1948] 167–9); but probably these terms qualify קמר "wool." Finally צבע ידין can hardly mean "dyed on both sides," since no material can be dyed only on one side; it must be translated "twice dyed," on the assumption that articles of wool might be dipped twice in an attempt, which would increase their value, to render the colour fast. The Biblical עשר ידות "ten times" (Dan. i 20; cp. Gen. xliii 34) illustrates the use of ידין "twice" as here suggested; and this agrees with the known fact that the best articles dyed in Tyrian purple were dipped twice, whence they were called *dibapha* (Pliny *N.H.* IX lxiii 137).

IX 9: זי בנהו מצריא.

There is no reason to suspect the text: for the predicate, when it precedes the subject, may stand in the simplest form, whether of gender or of number, *i.e.* the masc. sing. 3rd person (Bauer & Leander *Gramm d. Bibl.-Aram.* 334 § 99 h).

IX 14: דחה ומדשה.

If מדשה stands for מְדֻשָּׁא (from נדש), then דַּחְיָ(ָ)א (from דחה) is the expected form.

This phrase inevitably recalls the Biblical גָּדַר הַדְּחוּיָה (Ps. lxii 2), which occurs in a slightly deranged passage which may be restored to read

עד־אנה תהותתו על־איש תרצחוי כלכם כקיר נטוי
אך־משאתו יעצו להדיח יָרְצוּ (כְּ)גֶדֶר דְּחוּיָה

"how long will ye incessantly rail at a man,
"will all of you batter (him) like a slanting wall,
"men who) are scheming only to thrust him down from his eminence,
"(who) would smash (him) like a fence thrust down?"

I take the second line with the verb in the 3rd person qualifying the subject in the 2nd person as expressed in כלכם in the first line (s. Kautzsch-Cowley "Heb. Gr." § 144 p). The addition of the preposition before גדרה is favoured by the parallel בקיר but is not essential: the noun may be taken as standing in the accus. case and so defining the action described by the verb (cp. Hos. x 1 Hab. i 11 Ps. lxxxviii 19 cv 10 Jb. xli 22).

[1] The vocalization of תְּרַצְּחוּ, like that of מְאַסְּפָיו (Is. lxii 9) is due to an Aramaizing scribe using the *pā'ēl* found in the supra-linear Targum (s. Dalman *Gramm. d. jüd.-pal. Aram.*[2] 88–9, 251/.

Another instance of a similar displacement of the last words in a line may here be cited in a corrected text:

ואבואה אל־מזבח אלהים אל־אל שִׂמְחָתִי
ואודך בכנור יהוה אֱלֹהַי גִּילִי

(Ps. xliii 4), where שמחתי (but not the re-arrangement) has the support of one Hebrew Ms (cp. Jer. xv 16–17, where לשמחת לבבי must be similarly transferred and put after ואעלז) X 15: ויהך בדן.

The sense is not so much " if he goes into court " as " if he enters on a suit "; for ד(י)ן describes the legal process, not the place where this takes place, which is בית דין at any rate in the post-Biblical language.

XI 13: חגי.

Here חגי is not further defined, as he is obviously the person of the same name who has been defined at the beginning of the line.

XII 17: מועה שמש לה ביתך אנת ענני.

This can hardly be translated " east of thy house, O Anani," since a vocative case in a legal document is highly improbable; rather the proper name catches up and gives precision to the pronominal suffix. The phrase may therefore be translated " east of thy house, (even that) of thee, (the person named) A." Exactly the same construction may be seen in ביתי אנה דרנמן " my house (even that) of me, (the person named) D." (Cowley " A.P." **6** 8), מני אנה ארתחשסתא " from me, (even) me A." (Ezr. vii 21) and רוחי אנה דניאל " the spirit of me, (even) me D." (Dan. vii 15). The construction in fact is found also in various forms in the other Semitic languages (Brockelmann *G.V.G.S.S.* II 223–8).

XIV 4: [ו]עד עלם

The photograph shows no trace of ו " and," which is not necessary (cp. **4** 5 **7** 4 **10** 8) and in fact is found only once in this idiom in the present collection (**2** 4).

P. 235 l.21: " or whoever she will to give it."

This is a shocking solecism for " any one to whom she wills to give it."

P. 268 l.4 "from Bagazušt, son of *Plyn*."

Here *Plyn* is a slip of the pen for *Bazû* (s. **3** 2).

P. 313 col. 1: בנתן.

The Acc. *kunāšu* = Jud.-Aram. כְּנָתָא " spelt " shows that בנתן is the abs. plur. form; it ought therefore to be entered as בנת in the sing. abs. form in the glossary.

This edition is a welcome addition to our slender stock of Aramaic documents, which has recently been considerably increased; and it is good news that two other collections of Aramaic documents of the same period may be shortly expected. One is the *papyri* of the time of Jeremiah, which Prof. Murâd Kâmil is editing, and the other is the *ostraca* (said to exceed 200 in number), on which Prof. Dupont-Somener has long been working.

Dr. Kraeling's work is exceedingly well done; the only point at which a student is likely to cavil is the exceedingly long introduction and a plate with four pictures of the opening of the rolls in a laboratory; such padding is really largely off the point and serves only to raise the price of the book. Some of the notes too are trivial, *e.g.* " בתבת, 2nd per. sing." (which is already apparent from the translation), or not very profound, like that on זין וזבב (where the point is entirely missed). These, however, are trifles, and the reviewer can but congratulate the editor on a masterly performance.

G. R. Driver.

G. R. Driver, M.A., F.B.A., Professor of Semitic Philology, Oxford, *Aramaic Documents of the fifth century* B.C., Oxford University Press, 1954; pp. xi, 59; plates I–XXIV B; 10½ by 16¼ inches; 84s. net.

In 1933 an interesting group of documents—letters written on leather—was offered for sale to the late German Prof. L. Borchardt; the dealer was unknown to him, and did not want to reveal to him (perhaps because he did not know himself) either the provenance or the date of discovery of the find. Having made some inquiries (of Prof. E. Mittwoch) with regard to the contents of these documents, Borchardt acquired them, and after his death his executors sold them to the Bodleian Library, where they have been carefully arranged and studied by Prof. Driver. The results of this research are now available to scholars in a magnificent volume, excellently produced by the Oxford University Press.

In his *Historical Introduction* (pp. 1–9) Driver examines a variety of matters: the " Discovery of the Letters," " Writing on Leather," the " Contents of the Collection," the " Subject-matter of the Letters," the " Order of the Letters," their " Date and Source," and " Place of Origin," the " Persons mentioned in them," the " Offices in the Administration," and the " Language of the Letters." On pages 10–36 we have the transcription and translation—accompanied by very full philological notes—of the thirteen more or less complete texts; whereas pages 37–43 give the transcription (with numerous notes) of twelve fragments which are so broken and damaged that their reconstitution appears hopeless, although there are enough fragments to make up five or six more letters. The Appendix (pp. 44–56) deals with the personality of Arsham (whose name runs through the great majority of the present documents) as far as can be ascertained from other sources, Neo-Babylonian, Aramaic, and Greek. The text ends with a full Glossary (pp. 57–59), which includes not only all the words appearing in the documents, but also the numerals 1, 2, 5, 8, 13, 20 and 30 which occur in them. The photographic reproductions (on plates I–XXIV B) are exceptionally clear.

The importance both of this unique find and of its learned elaboration is manifold, but the following points deserve particular attention: (1) the documents—belonging to the years 411/10–408 B.C.—are the earliest extant evidence of the use of leather as writing material in ancient Persia, and thus confirm our information from Greek and other literary sources. In Egypt, the use of skins of animals for writing was familiar in much earlier times; indeed, the first mention of Egyptian documents on leather goes back to the Fourth Dynasty (*c.* 2550–2450 B.C.), though the earliest of such documents extant is a fragmentary roll of leather of the Sixth Dynasty (*c.* twenty-fourth century B.C.). We may suppose that the ancient Persians were also familiar with the use of leather as writing material, but in the soil of Persia no leather could be expected to endure to our time. At any rate, it is probable that the early Persian " book of records of the chronicles " of *Esth.* vi, 1, and the royal record written on a " roll," mentioned in *Ezra*, vi, 2, were also written on leather.

(2) The documents give us valuable information of the extent to which Aramaic was used as an official language of the Persian empire. It has long been known that under the Achæmenidæ, Aramaic was not only the *lingua franca* of the day and the principal speech of traders from Egypt and Asia Minor to India, but also one of the official languages of the Persian empire. Although numerous Aramaic papyri (the earliest seems to belong to 515 B.C.) and ostraca come from Egypt—amongst them the famous Elephantine papyri—they mainly concern the Jewish military colony in Egypt. In the present documents we have a whole group of letters written by a Persian satrap of Egypt (Arsham) or by other high-ranking Persian officials to subordinate Persian officials in Egypt, and one document (a sort of passport or letter of credence) contains instructions from the Persian satrap to Persian and Babylonian governors on the route from Babylonia to Syria. The language " is used equally correctly by all the authors or scribes in this correspondence and seems to have become general for every kind of document at this time throughout the Persian empire. The letters contain a number of Persian words but, unlike the papyri, hardly any Hebraisms "(p. 9).

This imposing *editio princeps* of the Aramaic leather documents is a most valuable contribution to Aramaic palæography and philology; any Semitic scholar will find it indispensable. Both Prof. Driver and the Oxford University Press are to be congratulated on this very fine production.

DAVID DIRINGER.

M. B. COOKSON. *Photography for Archæologists.* Max Parrish. 1954. 15s.

Photography to-day plays a most important part in recording archæological work and material, for much that is destroyed in the course of excavation remains only in the pictures which have been taken by the excavator. More than in many other jobs therefore, is it essential that the results should be first class.

Mr. Cookson gained his experience as an archæological photographer under Sir Mortimer Wheeler, who contributes a foreword; he has set out concisely with useful illustrations, the best methods to attain good results. Chapters cover the requirements of a good archæological photograph, the apparatus best suited to achieve these results and perhaps the most important, how to prepare a subject in order to obtain the right effect.

Mr. Cookson's experience includes work in Britain, North Africa and India and in the chapters dealing with processing under field conditions, he is equally at home in hot or cold climates. Notes are also given with regard to provisioning for overseas excavations; and the last chapter deals with colour film and its possibilities, which is as yet only used experimentally by the archæologist.

No archæologist should go into the field without studying this book. For the photographer who wishes to take up archæological work, the special techniques and difficulties are fully explained.

J. du P. T.

YEHOSHUA BRAND *Klei Haheres Besifrut Hatalmud* (*Ceramics in Talmudic Literature*). (*Mosad Harav Kook*, Jerusalem 1953. Pp. 31, 634, v.)

The work under notice is a most valuable contribution to scholarship on a hitherto sadly neglected field. Talmudic literature abounds in *realia* whose elucidation and identification present manifold problems. Sporadic efforts for their solution set in at an early age. Some of the *realia* in Mishnah and Tosephta, the earlier stratum in talmudic literature named *tannaitic*, are elucidated in the Palestinian and Babylonian Talmudim, the so-called *amoraic* later stratum therein, either by direct translations into terms in vogue at the latter age or in comments of various kinds that yield incidental information. The *amoraic* comments cover only a part of the *tannaitic realia;* at times, they are themselves rather obscure. Hence the necessity for further comments at the post-talmudic age, by the *Geonim*, in the talmudic lexicon of R. Nathan b. Jehiel of Rome, Maimonides' Commentary on the Mishnah and the various Hispano-Arab and Franco-German talmudic commentaries. The problems involved are considerably aggravated by the unfortunate textual condition of the primary and, to some extent, also the secondary sources. When modern scholarship turned its attention to a critical investigation of talmudic literature, the *realia* therein did not at first receive their due. The scattered items of information in Levy's, Jastrow's, Kohut's and Krauss's rabbinic lexica, based partly on the above mentioned mediæval sources and partly on the etymology of Greek and Latin loan-words, were by the nature of the works concerned ill-suited to deal systematically with the talmudic *realia*. The only comprehensive work on the entire field of scholarship in view is Krauss's monumental *Talmudische Archäologie*. Numerous monographs have, on the other hand, been written on the various industries and branches of science reflected in talmudic literature.

Dr. Brand's work on Ceramics in Talmudic Literature, the first specialized study on that section of the talmudic *realia*, worthily takes its place by their side. It contains a learned Introduction as lucid as its involved subject matter permits, with a brief summary in English—rather too brief for readers not acquainted with Hebrew—at the far end of the book. Next to the latter, there are invaluable indices of the various literary sources and the names—in Hebrew, Aramaic, Latin and Greek (the latter in a Latin transcription)—of well over 1,500 items of earthenware vessels discussed in the main section of the book. That main section consists of 126 chapters dealing, in the alphabetical order of the respective talmudic terms, with a rich variety of earthenware vessels and their component parts. The discussion of the textual variants of each item, at times of a bewildering variety, is followed by the description of its process of manufacture, shape, primary and secondary uses, storage, *etc.*, and comparisons with Greek or Roman counterparts. There are more than 100 illustrations. Printed on paper of rather poor quality, some of them are unfortunately of little value whilst at times they seriously curtail the legibility of the text. Occasional inaccuracies in the

printing of Greek or other non-Hebrew words, as also in the references to works in European languages, must be an additional source of grief to the painstaking author.

As a result of his research, the author succeeds in identifying for the first time a number of vessels figuring in classical literature and in giving the Hebrew or Aramaic equivalents of their Greek or Latin names. He also suggests original interpretations of ancient literary sources hitherto well nigh unintelligible. Many a chapter in the Mishnaic Order *Tohoroth*, a field trodden with hesitating and uncertain steps also by veteran talmudists, is satisfactorily elucidated. Thus, Dr. Brand has earned the gratitude of both classical and talmudic scholars.

The author's method of research is lucidly presented in his Introduction. The modicum of continuous linguistic tradition preserved in Modern Greek as regards the classical nomenclature of ancient pottery, has no counterpart in the linguistic tradition of Mediæval and Modern Hebrew. The understanding of the talmudic nomenclature of pottery was early lost. Already the views on that subject expressed by mediæval commentators of the Talmud, at the *geonic* age and later, are rather guesses based on contemporary conditions than reflections of authentic talmudic traditions. Modern scholars' resort to etymology, when attempting to identify earthenware vessels in talmudic literature whose names are of Greek or Latin origin, is likewise liable to lead to errors. Whilst society is in a constant flux, with corresponding shifts in social and economic conditions and the resulting changes in the manufacture and use of utensils, the names of objects *etc.* are fossilized remnants reflecting the conditions of bygone ages. " Marshal " for instance, etymologically but a " horse groom," denotes in modern parlance " an officer of the highest military rank." It is the same with many a term of classical origin in talmudic nomenclature. That being so, the talmudic *realia* must be reconstructed with the methods successfully applied in archæology. Just as the archæologist is able to reconstruct complete figures from the tiniest fragments, so the author claims to be able to reconstruct the various kinds of pottery in talmudic literature from the items of information scattered in the ramifications of that literature concerning the size, shape, manufacture, use, etc., of the vessels concerned and their various components.

To the author, the whole talmudic period is apparently one continuous unit. Characterizing the literature of that period as mainly religious and as a result rigidly conservative, he assumes that even the shifting of the centres of scholarship from Palestine to Babylon will have brought in its wake but negligible changes. His view of such an unruffled continuity of linguistic usage in talmudic literature, notwithstanding the many centuries between the earliest and latest strata therein, seems somewhat oddly at variance with his view of unceasing change in the linguistic usages of both the Græco-Roman world and the *geonic* age. Also his implicit faith in archæology strikes one as somewhat *naive*. The gibe "*ex pede Herculem*" levelled at archæologists is at times not without some justification. Similarly, when digressing to the

problem of inconsistent renderings of one and the same Hebrew term for some item in the Biblical nomenclature of pottery with various Greek terms in the Septuagint, which in his view necessarily represent various kinds of pottery, the author seems to be unaware of the composite origin of the Septuagint. Minor flaws of that kind notwithstanding, Dr. Brand's arguments in the main section of his work seem on the whole quite convincing.

One of the important conclusions of the scholarly and painstaking author, is the reversal of the widely held view that there was a radical difference between the Jews of the talmudic period and their Gentile contemporaries. Whilst there existed obvious differences between them in religious beliefs and practices, they were very much alike as regards the remaining spheres of life, such as language, dress, art, and even customs relating to life after death. That principle, Dr. Brand rightly stresses, is of paramount importance for the reconstruction of Jewish Palestinian culture during the talmudic period.

E. WIESENBERG.

The Committee have to acknowledge with thanks the following:—

Al Machriq. Vol. XLVIII, No. 6, November–December, 1954.

American Journal of Archæology. Vol. 58, No. 4, October, 1954, and Vol. 59, No. 1, January, 1955.

American Journal of Philology. Vol. LXXV, No. 3, July, and No. 4, October, 1954, with index to Vols. LXI–LXXV.

Annual Report of the Smithsonian Institute, 1953.

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Biblical Archæologist. Vol. XVII, No. 3, September, and No. 4, December, 1954, and Vol. XVIII, No. 1, February, 1955.

Biblical Research Monthly. Vol. XIX, No. 7, July, No. 8, August, No. 9, September, No. 10, October, No. 11, November, No. 12, December, 1954, and Vol. XX, No. 1, January, No. 2, February, and No. 3, March, 1955.

Bulletin of the American Schools of Oriental Research. No. 135, October, 1954, and No. 136, December, 1954.

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Syria. Vol. XXXI, Nos. 1 and 2, 1954.

Theologische Zeitschrift (Basel). Year 10, No. 3, May–June, 1954.

United States Museum Annual Reports. 1954.

JERICHO EXCAVATIONS

ACCOUNTS OF 1953 EXPEDITION

Expenditure	£	*Totals of Main Heads* £
Equipment—		
Camp	33	
Photographic	8	
Repair of Finds	15	
Digging	28	
		84
Expendable materials—		
Photographic	71	
Repair of finds	26	
Digging	47	
Stationery	48	
Medical	29	
		221
Transport, Postage, Bank—		
Transport of materials to and from Jordan	397	
Postage	17	
Bank charges	6	
Car and transport in Jordan	148	
		568
Rent and repairs to house	92	
		92
Camp Expenses—		
Food	534	
Canteen	10	
Household	49	
Fuel	63	
Camp wages	198	
		854
Expenses of Personnel—		
Travel	552	
Grants	56	
		608
Labour		855
Miscellaneous		10
		3,292
Balance in hand		151
		£3,443

Income	£	*Total of Main Heads* £
Per British Committee—		
B.S.A.J.	300	
P.E.F.	200	
British Academy	400	
Sydney University	200	
Ashmolean Museum	100	
Birmingham City Museum	100	
Oxford Committee for advanced Studies	100	
Russell Trust	100	
Australian Institute of Archaeology	100	
University of Liverpool	52	
University of Glasgow	25	
Cambridge University Museum	25	
Trinity College, Dublin	25	
University of Edinburgh	10	
Individual subscriptions	50	
Sydney University, for transport of finds	67	
Australian Institute for transport of finds	22	
B.S.A.J., for maintenance of personnel	150	
Profit on exchange	39	
		2,065
For American School—		
A.S.O.R.	817	
A.S.O.R., for maintenance of personnel	48	
		865
Miscellaneous—		
Palestine Archaeological Museum	250	
Donations	6	
Sale of finds	2	
Contributions to Maintenance	89	
		347
	347	
		3,277
Brought forward from 1952		166
		£3,443

Inspected and agreed.
G. M. Fitzgerald,
31st December, 1954.

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